

Items of Interest

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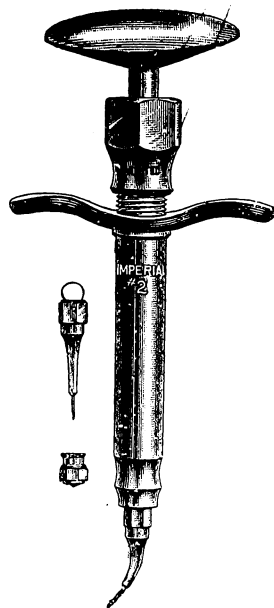
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Dental Radiography.*

By HOWARD R. RAPER, D.D.S.,
Professor of Operative Technic and Roentgenology at Indiana Dental College, Indianapolis.

CHAPTER VII—Continued.

53. To Observe the Field of Operation before and after Resection of the Mandible.

Resection of the mandible is a difficult, radical operation, and one which has been performed comparatively few times. Operators who have done this operation have not, so far as I am able to learn, availed themselves of the assistance which good radiographs of the case would have rendered.** Resection of the mandible might become necessary as a result of an existing pathological condition of the bone, or it might be done to correct a bad case of prognathism. For whatever reason the operation may be done, the operation itself is the same, in that a piece of the mandible is removed. Consider the operation for prognathism, for example: A piece of the body of the mandible from each side is cut out and removed. The anterior part is then forced back and the cut ends of the bone (four of them) wired into apposition. That anti- and post-operative radiographs of such a case would be of value is apparent.

54. In All Cases of Facial Neuralgia with an Obscure Etiology.

Cases of facial neuralgia with an obscure etiology, the exciting cause for which was disclosed by the radiograph, have already been described under more specific headings—Figs. 159, 164, 177 and others.

When making radiographs to learn the cause of trifacial neuralgia, it is expedient usually to make a large 8 x 10 picture of the affected side.

*Copyright, 1912, Howard R. Raper.

**See description of operation, with radiograph, by Dr. Max Ballin, ITEMS OF INTEREST, June, 1908, Pages 422-27.—ED.

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Fig. 290

Fig. 290. The arrow points to a shadow in the body of the mandible in the region of the lower first bicuspid. (Radiograph by A. M. Cole, of Indianapolis.)



Fig. 291

Fig. 291. The same case as Fig. 290. A radiograph of the upper part of "the shadow." It shows the crown of a supernumerary bicuspid with three denticles above it. The white spot at the apex of the second bicuspid is caused by an air "bell" attaching itself to the film in that region at the time it was in the developing solution. (Radiograph by A. M. Cole, of Indianapolis.)

This radiograph can then be studied and, if some lesion is discovered, another radiograph of the particular region of the lesion made on a small film. The second radiograph, on the film, will be clearer than the one on the plate, and will verify or disprove the findings in the larger picture.

Figs. 290 and 291. Case: Married woman, middle age, suffered from pains in the region of the upper bicuspsids. The dentist could find no lesion that might be responsible

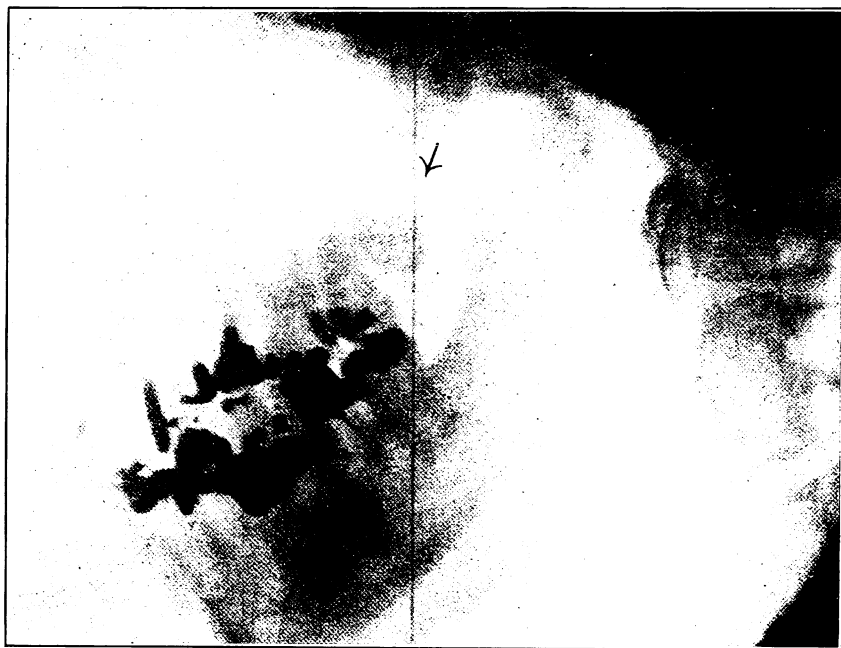


Fig. 292

Fig. 292. The arrow points to an impacted upper, third molar, the cause of "idiopathic" neuralgia, from which the patient had suffered recurrently for from between twenty-five to thirty years. (Radiograph by A. M. Cole, of Indianapolis.)

for the trouble. A radiograph (Fig. 290) was made, but does not show the upper teeth clearly. It does, however, show a shadow in the body of the mandible in the region of the *lower* first molar, which tooth is missing from the jaw. A radiograph (Fig. 291) of the region in which the shadow appeared was made on a small film held in the mouth. The film was not placed in exactly the proper position and, as a result of this mistake, pictures only a part of the lesion. It shows the crown of a supernumerary lower bicuspid with three supernumerary bodies (denticles) above it. Though the lesion in the lower jaw was not at the location in which pain occurred, it was doubtless responsible for the neuralgia.

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The patient would not submit to an operation. The case, if not operated upon, will probably progress to a large dentigerous cystic tumor. Evidence of this can already be noticed in Fig. 290 by the lack of normal density of the surrounding bone.

Fig. 292. Case: Married woman, physician's wife, about forty-eight years old, had suffered for twenty-five or thirty years with attacks of neuralgia occurring four or five times a year, each attack lasting for several days. None save dental operations were performed, though she received palliative treatment for ear, mastoid cells and antrum trouble. No treatment gave relief. She left her home in Indiana and spent one winter in South Carolina, hoping the milder climate would ward off the attacks of pain, but this proved futile. At no time did her temperature rise above normal, proving, or seeming to prove, that whatever the irritation, there was little or no suppuration attending it. A radiograph (Fig. 292) was finally made, and showed an impacted upper third molar. This tooth was removed, and since then, now over four years ago, she has not had a single attack of neuralgia.

Attention is called to the fact that up to the time of making the radiograph this was a typical case of idiopathic facial neuralgia.

55. To Observe the Inferior Dental Canal.

Often, but not always, we are able to radiograph the inferior dental canal. (See Fig. 190.) To the man contemplating resection of the inferior dental nerve anywhere throughout its course in this canal a radiograph showing the location of the canal would be of value.

Dr. Virgil Loeb, of St. Louis, reports a case of anesthesia of the lower lip, and that part of the face on one side, which receives its nerve supply from the nerves passing through the mental foramen. The anesthesia followed the extraction of a lower third molar. A radiograph of the case showed that the roots of the third molar had penetrated the inferior dental canal. Knowing this, it was deduced that, at the time of extraction, the inferior dental nerve had been stretched, and a few fibres torn at the mental foramen. Lately I have personally observed such a case. I do not print radiographs of either Dr. Loeb's or my own case, because they are not clear enough to permit of good half-tone reproduction. Such cases as the ones now under consideration recover slowly, the time required varying from one to several months. Treatment with the high-frequency current may, or may not, hasten recovery slightly. Though slow, complete recovery may be expected.

Immediately after the filling of the canals of a lower second molar a patient suffered most severe pain in the region of the filled tooth. A radiograph was made and showed the canal filling penetrating the apical



Fig. 293

Fig. 293. Photograph of a case of so-called Ludwig's angina. Also a radiograph of the case showing an abscess of the first permanent molar. The fistulous tract cannot be seen.

foramen of the distal root, projecting into the inferior dental canal, and doubtless pressing the inferior dental nerve. An effort to remove the canal filling met with failure, and the tooth was extracted to relieve the patient of the intense pain. Again I do not print radiographs of the case because the prints are not sufficiently clear to permit of good half-tone reproductions.

56. In Cases of Ludwig's Angina.

Angina is defined in Dorland's Medical Dictionary as "any disease or symptom characterized by spasmodic suffocative attacks;" Ludwig's angina as "purulent inflammation seated around the submaxillary gland." Whenever there is a pus sinus opening on the neck in the region of the submaxillary gland, the patient is said to have Ludwig's angina. This is the popular application of the term, and it seems to the writer unfor-

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fortunate, for there is seldom angina—*i.e.*, suffocative attacks—in these cases of suppuration of the neck.

Figure 293 is a photograph of a case of so-called Ludwig's angina occurring in a child ten years of age. The accompanying radiograph of this case shows an abscessed lower first molar, which was responsible for the sinus on the neck. The arrow points to a notch in the lower border of the body of the mandible. Extraction of the lower first molar and curettement of the alveoli was all that was necessary to effect a cure in this case. Had the patient been older, or not so vigorously healthful, the slightly necrotic area pointed to by the arrow would have required curettement through a facial opening. The radiograph happens to demonstrate the congenital absence of a lower second bicuspid.

Dr. H. R. Sparrevohn, of Los Angeles, reported a case of "Ludwig's Angina" in the June number of the *Dental Cosmos*, 1910. The patient was receiving hospital treatment for suppuration of the glands of the neck, when Dr. Sparrevohn examined the case, had radiographs made, and pronounced the trouble due to an impacted lower third molar, which could be seen clearly in the radiograph, and in appearance was similar to Fig. 159. Neither the patient nor the attending physicians could be convinced that his diagnosis was correct. (Had the fistula been injected with bismuth paste and a radiograph made there would have been no chance for dispute.) Dr. Sparrevohn closed his report of the case as follows: "I should be thankful to readers of the *Dental Cosmos* if they would express themselves as to the correctness of my diagnosis. At present I am much discredited, especially by the medical men connected with the case."

Dr. Herbert McIntosh, a physician, answered Dr. Sparrevohn in *Dental Cosmos*, October, 1910. He said in part: "I think there can be scarcely any doubt that the malposed molar, of which very good radiograms were presented, was the cause of the serious symptoms reported. Anyone who has had experience in the skiagraphing and observing of such cases would have no hesitation in suspecting dental irritation as the origin of the symptoms reported in the case. In general, the medical man is too apt to overlook the reflex irritation produced by the teeth. There is evident need of skiagraphy to clear up these obscurities of diagnosis in conditions of the face and cranium. There should likewise be a greater readiness to admit the importance which teeth have in producing pathological conditions of the tissues."

I believe I am safe in saying that about all of the cases of so-called Ludwig's angina are due to dental lesions. Yet, referring to no less than a dozen medical dictionaries and works on the practice of medicine, I



Fig. 294

Fig. 294. Alveolar abscess pointing externally. The abscess is caused by the only-slightly-impacted and not-malposed lower, third molar.

find that none of them even mention the teeth as an etiological factor to be considered. These books state that the disease is caused by diphtheria, erysipelas, syphilis, tuberculosis, and that it occurs epidermically and idio-pathically. It is therefore not surprising that Dr. Sparrevoehn's diagnosis was discredited.

As is indicated by the remarks of Dr. McIntosh, many medical men are more enlightened than the authors of the books to which I have referred. But, on the other hand, many of our brothers in the practice of general medicine need education along this line. For example, a physi-

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cian of my acquaintance, a specialist on the treatment of tuberculosis, treated, and treated without benefiting, a case quite similar in appearance to Fig. 293, giving the usual anti-tubercular treatment, including the administration of bacterine. The patient's mouth had *never* been examined by a dentist, and radiographs of the case were not made, nor were either of these things done after I suggested them, because the physician thought it so highly improbable that the teeth could cause such a condition.

To illustrate the grave nature of the symptoms in some of these cases permit me to report the following case:

Young man, age twenty-three, suffered from what was diagnosed pharyngeal abscess. Confined to the house for a month, and lost thirty pounds. A change of physicians brought in a man on the faculty of the Indiana Dental College. It became necessary to make an external incision to permit the escape of a great quantity of pus. And let me say that because the incision was made on a line with, instead of at right angles to, the fibers of the muscle, the resultant scar is hardly noticeable. The writer was called in consultation. I did not do radiographic work, nor appreciate its importance at this time, or the doubt in my mind as to the correctness of my diagnosis might have been eliminated. The patient could not open the mouth, but instruments passed along the vestibule of the mouth came in contact with the corner of what I suspected to be an impacted lower third molar. The mouth was opened, the tooth found and removed, and the patient recovered immediately. The impacted tooth was not decayed.

The radiograph should be used in all such cases of suppuration about the face and neck.

Fig. 294. The lower third molar, though not badly impacted, not malposed and not decayed, is abscessed.

The abscess points externally. The fistulous tract cannot be seen in the radiograph because of the slight destruction of bony tissue throughout its course.

57. In Cases of Insomnia, Neurasthenia, Insanity and Kindred Nervous Disorders.

If Dr. Henry S. Upson, of Cleveland, were a dentist, his assertion that dental lesions may, and do, cause insanity, would be met, not altogether unfairly, with the argument that, in the practice of his specialty, Dr. Upson had developed a rare case of myopia, and could no longer see past his especial field and consider other etiological factors. But Henry S. Upson is not Henry S. Upson, dentist; he is Henry S. Upson, M.D., Professor of Diseases of the Nervous System at the Western Reserve University, and Attendant Neurologist to the Lakeside Hospital, Cleveland, Ohio.

The situation as it stands to-day is this: Dr. Upson claims that impacted teeth and chronic alveolar abscesses cause insomnia, neurasthenia and insanity. He gives histories of radiographically illustrated cases, which have been cured by extraction of the impacted or abscessed teeth, and he asks a question: "If a diseased uterus can cause insanity (and it is believed that it can), then why not dental disease?" The nervous connection between the teeth and brain is much more intimate than that between the uterus and the brain. No one answers Dr. Upson's question, and so far, no one has in any way tried to prove Dr. Upson wrong in his belief that the teeth are responsible for grave nervous disorders. We must then, in fairness, accept what he says as the truth, until we are able to show wherein he is mistaken.

To give you an idea of the importance of dental lesions as a causative factor in the neurosis, as promulgated by Dr. Upson, I quote from the doctor's book, *"Insomnia and Nerve Strain"*:

"Of the viscera responsible for the more obscure cases of nervous and mental derangement, I have no hesitation in designating the teeth as the most important. This is not only on account of the common, almost universal occurrence of dental diseases, but because these organs move, during the period of their development, through the solid framework of the jaw, highly innervated and clothed by a membrane sensitive to impact and to corrosive toxins."

That Dr. Upson has met with skepticism on the part of his brother practitioners is suggested I believe by the following, quoted again from the book, *"Insomnia and Nerve Strain."*

"There seems to exist among physicians not only a disregard but a distinct, though mild dislike of the teeth as organs to be reckoned with medically, they being, as it were, an Ishmael, not to be admitted to their pathologic birthright. Lauder Brunton's essay on the subject is too little known and heeded, and few such systematic attempts have been made to correlate their disorders with the suffering of the human race, except for the obvious phenomena of pain. Ordinary pain at a distance, as headache or neuralgia, due to the teeth, though well known, is commonly disregarded. Even the various reflex nervous phenomena in children, convulsions, fretfulness, and fever, are not now ascribed to the irritation either of teething or of dental caries, but to digestive disorders. The state of recent opinion, as enshrined in epigram, is that 'The result of teething is nothing but teeth.'"

My readers may ask what has all this to do with dental radiography? Just this: the radiograph should be used more extensively, as Dr. Upson has used it, in a search for dental lesions in cases of the various nerve disorders, for Dr. Upson states "The lesions can seldom be observed by any means save the use of the X-rays."

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Though I would like to print a radiograph and history of all of the different neuroses including insomnia, neurasthenia, mania, hysteria, melancholia and dementia, it would hardly be in keeping with a work of this kind, and I shall therefore give but one case, which is more or less typical.

Case: Melancholia and insomnia. "An unmar-

Fig. 295. married woman, twenty-seven years old, a teacher, for a year had been profoundly melancholy with intract-



Fig. 295

Fig. 295. Impacted upper, third molar, causing melancholia and insomnia. Radiographer unknown.)

able insomnia, delusions of various deadly sins, and entire hopelessness of recovery. Restlessness was extreme, tonic and local uterine treatment were of no avail. As a last resort the teeth were examined. They were apparently in perfect condition. A skiagraph (Fig. 295) showed an impacted upper third molar tooth pressing against the second molar, a condition obviously capable of causing irritation. The symptoms, in about a week after the removal of the tooth, began to improve. Recovery was complete in six or eight weeks, and has persisted. There had been at no time pain or other localizing symptoms."

In concluding our consideration of this subject, I quote from a recent paper by Dr. Upson:

"The following is a tabulated statement of cases of neurasthenia and the psychoses seen in private practice during about two and a half years, in which skiagraphic examinations of the teeth and jaws were made. These results represent the first stumbling efforts in a new and unknown field, and so do not adequately show what may be accomplished by skill and careful endeavor along the same line:

| | Num- ber | Opera- tion | Recov- ery | Conval- escent | Im- proved | Unim- proved | No Data |
|----------------------------|-------------|----------------|---------------|-------------------|---------------|-----------------|------------|
| Manic depressive type..... | 11 | 9 | 5 | .. | 2 | .. | 2 |
| Dementia precox..... | 10 | 8 | 5 | 1 | .. | 2 | .. |
| Psychosis | 4 | 4 | 1 | 2 | .. | .. | 1 |
| Insomnia | 7 | 6 | 2 | .. | 4 | .. | .. |
| Neurasthenia | 26 | 15 | 1 | 4 | 6 | 1 | 3 |
| | 58 | 42 | 14 | 7 | 12 | 3 | 6 |

The following is a separate statement of the cases of impaction included above:

| | Number | Operation | Recovery | Convalescent | Improved | Unimproved | No Data |
|----------------------------|----------|-----------|----------|--------------|----------|------------|---------|
| Manic depressive type..... | 5 | 3 | 2 | .. | I | .. | .. |
| Dementia precox..... | 7 | 5 | 4 | I | .. | .. | .. |
| Psychosis | 2 | 2 | I | I | .. | .. | .. |
| Insomnia | 3 | 2 | .. | .. | 2 | .. | .. |
| Neurasthenia | 13 | 9 | .. | 4 | 2 | I | 2 |
| | <hr/> 30 | <hr/> 21 | <hr/> 7 | <hr/> 6 | <hr/> 5 | <hr/> 1 | <hr/> 2 |



Fig. 296

Fig. 296. Malposed impacted lower cuspid, responsible for periodic headaches. (Radiographer unknown.)



Fig. 297

Fig. 297. An impacted upper cuspid, which caused blinking of the eyes. (After Dr. Varney Barnes.)

58. In Cases of Periodic Headaches.

Irritation of the trifacial nerve may cause headache. The irritation may be due to such lesions as an impacted tooth, a chronic abscess, or a cementoma, for examples:

“After the removal of the malposed impacted cuspid seen in Fig. 296, severe headaches which she (the patient) had had once or twice a week for many years ceased immediately.”*

Several cases similar to the one cited above have been reported in recent dental literature.

59. In Cases of Facial Gesticulatorytic. (Spasmodic Twitching of a Set of Facial Muscles.)

“An impacted upper cuspid which caused blinking of the eyes.”**

*Dr. Henry S. Upson, Cleveland, Ohio.

**Dr. Varney E. Barnes, Cleveland, Ohio.

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Dr. Barnes also reported a case of twitching of the facial muscles on one side. On the corresponding side two supernumerary teeth were found. I have been unable to learn from Dr. Barnes whether removal of the supernumerary teeth effected a cure. Dr. Barnes agrees with Dr. Upson thus far at least: both men are of the opinion that impacted teeth may be responsible for varied and grave nerve disorders. Dr. Upson's treatment has always been extraction, while Dr. Barnes advocates orthodontic procedures, such as enlarging the dental arches and elevation of the impacted tooth.



Fig. 298

Fig. 298. The radiograph demonstrates the absence of a piece of the lateral root above the lateral dummy and shows the canal of the central and cuspid well filled and the tissues at their apices healthy.

60. To Allay the Fears of a Hypochondriac.

Every practitioner of dentistry and medicine has trouble with hypochondriacal patients, patients suffering—and actually suffering—from some imaginary ailment. What these patients need is psychic treatment. To be sympathized with—or a better way to state it would be to say “understood”—and at the same time shown that their trouble lies, not in any pathologic lesion, but in faulty habits of thought.

Case: Young lady, age about twenty-three, complained of obscure indefinite pains in the region of a bridge extending from central to cuspid, which pains she declared were due to an unremoved portion of the lateral incisor root. Having seen the lateral root when it was extracted, and superintended the treatment of the central and cuspid, and the making of the bridge, and knowing the patient—in short, knowing the complete history of the case—I was inclined to believe that the trouble with the bridge lay in the diseased imagination of the patient. After treating the case with counter-irritants

Fig. 298.

once or twice, each time conversing freely with the patient concerning her symptoms, and failing to observe any clinical signs of a pathologic lesion, I became convinced that my original surmise was correct, and that the teeth involved in the bridge were causing no pain. I positively knew there was not a piece of the lateral root above the artificial dummy, as the

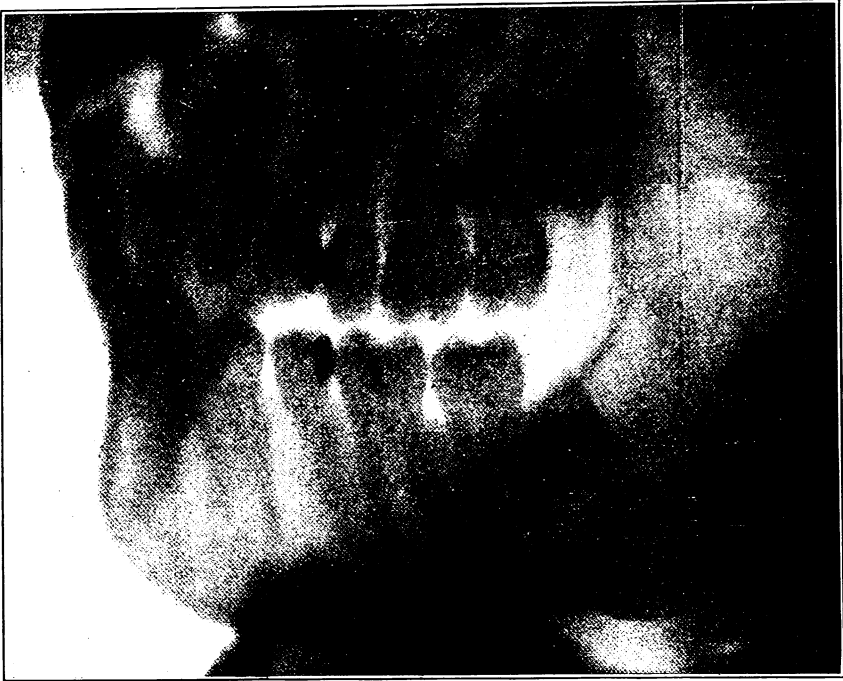


Fig. 299
Fig. 299. Impacted lower, third molar, causing a false ankylosis (Radiograph by Graham, of Detroit.)

patient insisted. Having arrived at this conclusion, I proceeded as tactfully and kindly as I could to explain my belief to the patient. Whereupon she broke down and cried, displaying definite symptoms of hysteria. I want it distinctly understood that I did not blame the patient for her condition; that I was not out of patience with her; that I did not tell her there was nothing the matter with her—for there was, though the seat of the trouble was not the bridge. And this I tried to make her understand. After she had recovered somewhat from her crying, I said: "Now I do not want to take that bridge off, for I know there is no root beneath it. I do not need to look and see, as you ask me to. But I know

a way of looking at the bridge so we can *both* see it if there is any root there, or if either of the crowned teeth are at all diseased. If I can show you beyond the shadow of all doubt that there is no root there, will you believe that what I have been telling you is perhaps true, that the bridge is all right, and that you are falling into faulty habits of thought?" She said she would.

The radiograph (Fig. 299) shows there is no root above the lateral dummy, that the canals of the central and cuspid are properly filled, and that the tissues at their apices are not diseased. The radiograph of her own case, together with several others showing roots above bridges, abscesses and perforations, were shown and explained to the patient. I did not attempt to force her to admit that I had been right in my diagnosis of her case, nor did she do so verbally; but she has not returned for further treatment, and she still wears the bridge.

**61. In Cases Where the Patient Cannot Open the Mouth Wide Enough
for an Ocular Examination.**

An impacted lower third molar sometimes causes a false ankylosis. We suspect the presence of the impacted tooth, but are unable to demonstrate it except by the use of the radiograph made on a large plate (Figs. 101 and 102) or a film on the outside of the mouth (Fig. 97). With the radiograph to confirm suspicions and show the exact location of the offending tooth, the operator may proceed to anesthetize the patient, force the mouth open with a mouth prop and extract the tooth.

Fig. 299. Figure 299 is a case in which the mouth could not be opened because of the inflammation caused by the impacted lower third molar seen in the radiograph.

**An Operation for the Closure of Cleft Palate by
Gradual Pressure.**

BERNARD F. SHEA, D.D.S.

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Brooklyn, New York.*

True cleft palate is a congenital fissure in the roof of mouth of variable extent.

The so-called acquired cases differ therefrom in presenting an unequal, ragged or incomplete cleft, such as would be produced by the destructive ulcerations of syphilis. The extent of congenital cleft may vary from the slightest manifestation, that of a bifid uvula, to the grossest

form of conjoined cleft palate and hare-lip in which the fissure involves not only the velum palati and hard palate, but penetrates one or both sides of the alveolar arch and upper lip, with the presence of separate inter-maxillary structure.

This paper, however, will not embrace the subject of hare-lip except incidentally.

It is a remarkable fact, but it is a fact, that one may change the character of a person by correcting deformities of the face and jaws, and I feel that nearly all of these deformities may be corrected; and, in my opinion, it is almost a crime to let these patients go on unrelieved, as is often done, when they may have the advantages of modern surgical and orthodontic treatment.

The orthodontists have shown us that the dental arch should be perfect, and that the development of the mouth, the face, the nose and associated parts, depends largely upon the regularity in this respect and, when undertaking to close a cleft palate, by whatever means, we should keep in mind the perfect arch; but it is the writer's belief that when you come across a case, and you do at times, that has a regular arch or as near regular as it can be in such cases, with the premaxillary bones hanging on the end of the nose and a bi-lateral cleft with a double hare-lip, it may be necessary to change the regularity of that arch and depend upon the orthodontist to do a little regulating later on, provided we have been fortunate enough to make the operation, even though we have found it necessary to contract the arch so that we may make a flap operation, keeping the tissue in its normal position.

History of Cleft Palate Operations.

Lemonier, a French dentist, is credited with having been the first to suggest and to successfully operate for the closure of fissures of the palate—the record having been published in 1776. He succeeded in closing a fissure in both the hard and soft palates by paring the edges of the cleft, approximating and suturing.

Eustache, in 1799, recommended the same procedure.

Von Grafe revived the operation in 1816.

The operation was modified by Roux in 1819.

Warren, of Boston, in 1820, being ignorant of the efforts of the other surgeons, performed successfully a similar operation. After this time the operation became generally known.

Some of the operations performed for cleft palate, as I understand them, are Langenbeck's, Fergusson's, Billroth's, Rotter's, Davies-Colley's, T. Smith's, Lane's, G. V. I. Brown's and Brophy's.

The Langenbeck method consists of first paring the edges of the cleft, second making an incision through the soft tissues covering the

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hard palate close to the teeth, and lifting these tissues from the bone with a suitable periosteotome, sliding them over the fissure and uniting the periosteal surfaces with sutures.

Furgusson pares the edges of the cleft, then drills the bony palate from before backwards at short intervals, splits it with a chisel and unites by silver wire sutures.

Billroth does a modified Langenbeck.

Rotter transplants tissues.

Davies-Colley's is a flap operation.

T. Smith closes a wide cleft in a palate by utilizing muco-periosteal flaps from the sides of the vomer.

Lane's operation is a flap operation, and is performed as early as possible after birth; his flaps are extensive, and leave large surfaces of bare bone, which heal very rapidly. It differs from some of the other flap operations in that it leaves the flap wrong side up, but very wide clefts may be closed by his method.

Brown does a flap operation, keeping the flaps in their normal position; that is, he claims that the periosteum should always be transferred in its normal position.

Brophy's operation consists of passing silver wires, No. 20, through the maxillary bones above the level of the palate, and, if necessary, through the nasal septum. He uses two wires anteriorly and posteriorly; these wires pass through lead plates which are molded to fit the convexity of the buccal surfaces of the bones. Wires are drawn tight and twisted together over the lead plates until the cleft is completely closed, the margins of the cleft having been scarified. He then sutures the soft palate, and in some cases he is compelled to use bone-crushing forceps to get the margins in apposition.

Best Age at Which to Operate.

In a discussion on the treatment of cleft palate, at the May meeting of the Royal Society of Medicine (*Edinburgh Medical Journal*, September, 1911) there was developed a sharp conflict of opinion as to the age at which to operate, and the general acceptance of Langenbeck's operation in preference to those devised by Lane and Brophy. Lane stated that he operated as soon after birth as possible, first, in severe cases to save life; and second, to obtain sufficient air pressure in the nasopharynx during respiration to enable the nasopharynx and surrounding bones fully to develop as they do in a normal child. He said that only a fraction of the severe cases survived to come to operation at four to six years.

The more serious the case, the earlier in life it should be operated on. In the first few days of life these babies are at their best. Many clefts

could only be closed early, as later the encroachment of the teeth on the gums deprived the flap of about two-thirds of its breadth. The mortality of 5.9 per cent. with his "turn-over flap" operation was surprisingly small, considering the desperate state of many of the children on admission.

The strongest opponents of early operation were Johan Ulrich, of Copenhagen, and James Berry. The former stated that he had found it more difficult to obtain healing at the age of two or under, and in future he would prefer to postpone operation till the age of three years. Berry said he considered early operation the very reverse of life-saving. If emaciated children with a wide cleft were properly nursed by a mother or nurse, he did not find that many of them died. The period of choice for the operation in the difficult cases is at two years, but there are many cases with narrow clefts which could be advantageously operated on even in the first year of life. In his series of 144, no death had occurred. Several of the speakers pointed to the absence of statistics showing that the mortality in children with cleft palate not operated on was greater than ordinary children of the same class.

The chief criticisms directed against Lane's "turn-over flap" operation were: That the operation is dangerous in young infants; that the soft palate tends to become thin and cicatricial and the power of articulation poor; that the palate may be too stiff; that there was much scar tissue, the palate was crooked, and when the children spoke there was a drawing up on one side; that atrophy of the flap occasionally occurred, sometimes so extensively that further operation was impossible.

Brophy's operation was condemned for its severity by Ulrich and Berry. Ulrich also said that after Lane's and Brophy's operations the teeth were often almost ruined.

**Prosthetic
Appliances.**

The question of prosthetic treatment and wide clefts were discussed by Ulrich. In most of the severe cases operation was followed by poor power of speaking, and in some the palate had required to be again split to apply prosthetic help.

On the other hand, many adults with a wide cleft spoke very well, almost excellently, with a properly fitting prosthetic palate. Out of 56 cases he thought that 10 would have done as well without an operation.

**Effects on
Speech.**

Sixty patients were shown at the meeting, and the consensus of opinion was that the result as regards speech were very disappointing.

G. E. Waugh dwelt particularly on this aspect. He said that only one of the patients shown did not betray by his speech that he had been the victim of cleft palate. It did not matter whether the

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operation was done in infancy or slightly later, or whether the original defect was slight or grave. Even if the structure and mobility of the palate were perfect, the child might speak as if it had no roof to its mouth and no mobile palate.

In all probability there were two lesions to consider: one in the functions of the speech centers, and one in the structure of the palate, and they were associated but not interdependent. Surgeons could claim no more than that operation would allow of breathing through the normal passages, and of swallowing in a fairly normal manner.

The Author's Operation.

The operation which the writer desires to submit to the best of his knowledge is original, and in his opinion may be used at any time during the first year; preferably during the first six months. Undoubtedly, it is wise surgery to operate early on suitable cases for the following reasons:

There is less nervous shock.

The bones are softer.

The muscles of the palate are given an opportunity to develop instead of atrophy. It facilitates feeding, breathing and phonation. In fact, the general vigor of the patients demand early interference.

Lane has shown how imperfect oxygenation and consequent infection of the nasal and pharyngeal respiratory apparatus result from obstructions in, and malformations of, the nasal canals, with consequent deterioration of health.

It is said Brophy has operated upon over 200 cases of cleft palate in babies younger than six months without a single death; yet the operation is not without risk. The operation on the cleft palate should be performed before the closure of the hare-lip, for the reason that the existence of the hare-lip gives more room in which to work, and the reduction of the premaxillary bones to their normal position gives us a better opportunity of producing expression and closing the fissure or fissures in the lip.

It is well, before operating, to see that the patient's general health is good, and that no local conditions exist which might interfere with the repair.

If adenoids are present they should be removed.

For a few days prior to operation it is well to cleanse the mouth and nasal fossæ with a mild antiseptic solution.

It is the writer's custom to select a specialist in anesthesia, and, when possible, have anesthetist take charge prior to operation, and select the anesthetic and method in his judgment best suited to the case. A thorough understanding between anesthetist and surgeon facilitates operation. The patient is anesthetised and placed in a Trendelenberg position.

**Technique of
Operation.**

A stout thread is passed through the end of the tongue as a traction suture.

Thread a bone needle with strong silk, raise the cheek and pass the threaded needle through the superior maxilla, from without inwards, at a point just under the malar process, and high enough to be above the palate. When the needle appears in the cleft, pick up the thread which it carries with a hemostat or

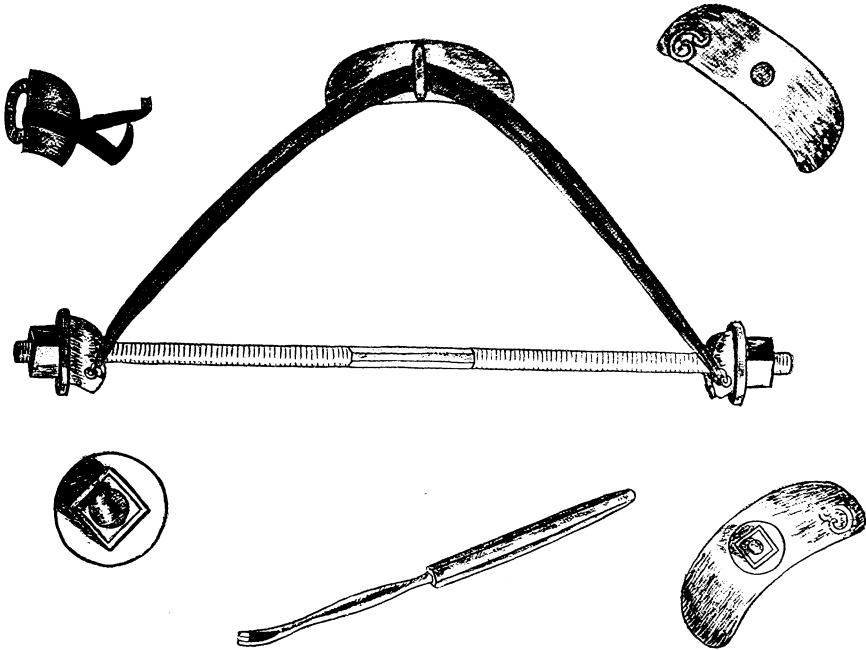


Fig. 1

hook, then withdraw needle; through a corresponding part of the opposite bone pass a loop of thread in the same manner.

Tie this second loop of thread to the first, and pull latter out carrying with it the former. We now have a loop of thread passing through both superior maxillary bones above the palate, and when necessary through the nasal septum.

This thread is for the purpose of drawing the free end of the compression bar through the bones, which we now do. This bar is made of a gold and platinum wire about 18-gauge, threaded from both ends towards the center. (Fig. 1.) Length approximated to the case.

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The bar is held in position while lead gaskets, silver plates and nuts are adjusted; the plates and gaskets are trimmed to fit the convexity of the buccal surfaces of the bones.

The nuts are now screwed on ends of bar outside of these plates with a small wrench until we have a slight pressure existing. (Fig. 2.)

The surplus ends of the bar are snipped off whenever they protrude sufficiently to interfere with the tissue on the inner side of the cheek.

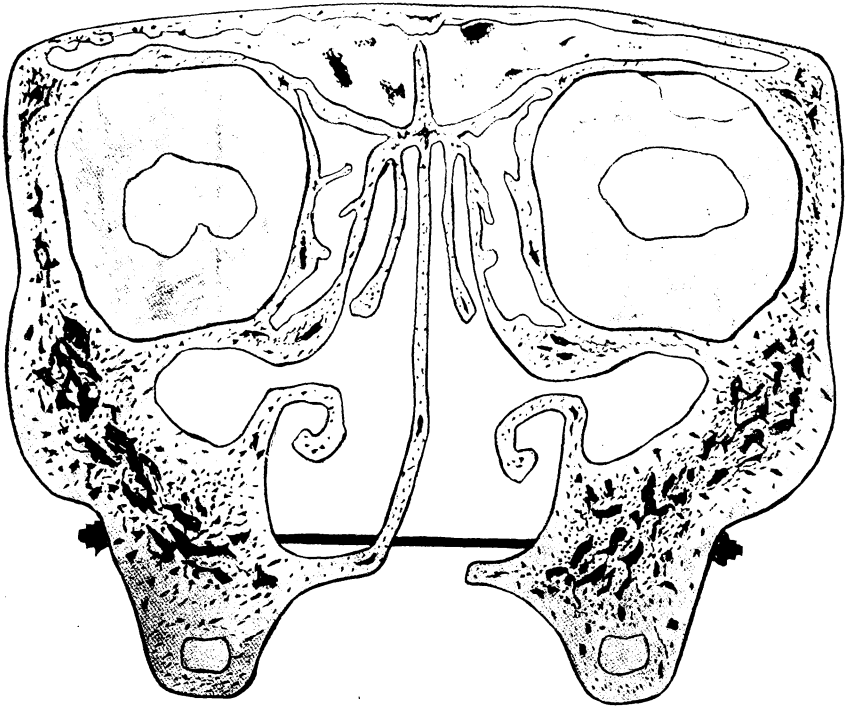


Fig. 2

If we are afraid of any irritation or laceration from this cause we may mould pieces of gutta-percha over these ends. These nuts are turned up a little each day or two, so that there will be slight but gradual pressure.

In taking up on these nuts it may be necessary to take up more on one side than on the other, so as to preserve as near as possible the median line.

On the anterior end of the silver plates I have soldered two small hooks for the purpose of reducing the premaxillary bones when they are involved. This is done by passing a rubber band through a small ring,

which has been soldered to a piece of silver suitably formed to fit the convexity of the premaxillary bones, and the free ends of the rubber band are attached or slipped over the hooks on the anterior portion of the buccal silver plates. (Fig. 1.) I depend upon the pressure from the elastic band to gradually reduce the premaxillary bones. It is very often necessary to cut a "V" from the vomer in order to get the premaxillary bones in position.

This is all that is done at the first operation, and this can be done in about one-half hour.

The length of time required to bring margins of cleft in close enough apposition for scarifying and suturing will depend upon the age of the child and the amount of resistance offered by osseous tissue.

Approximately two weeks.

The nuts used on the compression bar are of gold made with a fair-sized flange for the purpose of pressure distribution. When we have the margins sufficiently close to scarify and suture, the case is again anesthetized and the closure of the cleft is completed, leaving in position the compression bar to relieve tension until we have union.

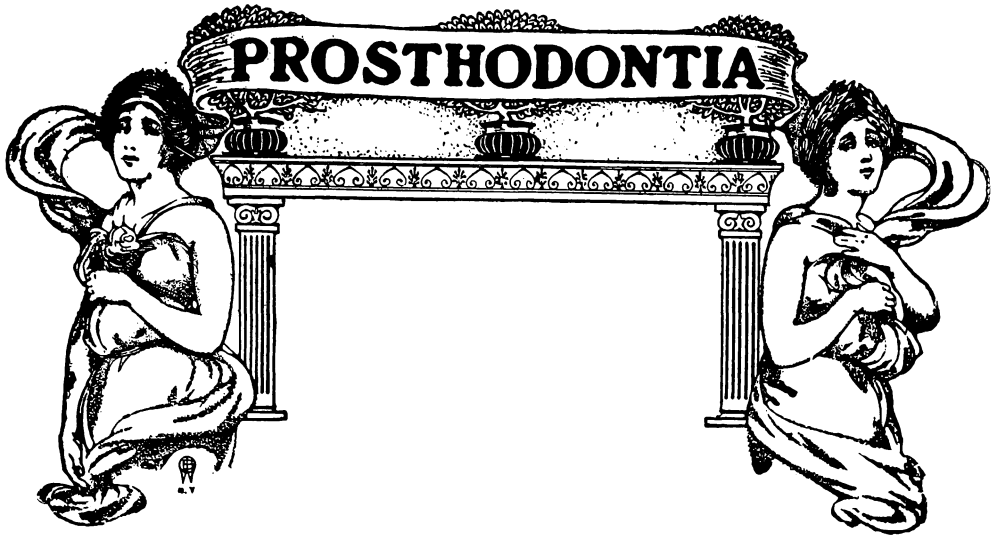
Special attention should be given to the nasal fossæ, so that there will be no crowding of parts. This method of gradually closing the cleft gives the operator a chance to decide by observation or measurement the amount of nasal stenosis likely to be caused, and if he sees that by complete closure of the cleft he is crowding the nasal fossæ, he may stop at that point and do a Brown, Langenbeck, Lane, or any of the flap operations. It will take at least three operations to complete a case by this method.

The compression bar is flexible; we do not need an anesthetic to remove it.

Do not close the hare-lip until palate is completely closed and patient has recovered.

After treatment—absolute cleanliness of the parts involved, the use of stimulants, if necessary, and feeding by means of a spoon.





The Tuttle Telescopic Porcelain Crowns.

By MONTAGUE HART TUTTLE, D.D.S., Atlanta, Ga.

We have come upon a time of crisis, when the laity are demanding a successful method of crowning teeth, with natural effect, that does not sacrifice what extensive caries has left of the crown portions, and constructing abutments for bridgework that does not entail amputation of sound teeth and destruction of the pulps.

When we consider the mutilation entailed by the anchor post crowns—how the foundation that nature presents is destroyed by excision of the stump—how the root is weakened and injured by the process of reaming: when we consider the insult the anterior gold crown has offered profession and layman: when we consider the frailty and dangers of unsupported structural porcelain work in the mouth, such as all porcelain bridges with all porcelain telescopic abutments, we do not wonder that there is a demand for an amendment of our ways.

In the writer's opinion, the most serious objection to the pivot crown is its incorporation into bridgework. Trouble arising from roots carrying such anchorages frequently results in the necessity for dismantling the anchorage and subjecting the patient to the inconvenience and expense of reconstructing the bridge.

While the layman is crying for reform, he should not overlook his discomfort in the removal of a metal post from the canal of an inflamed root, and the further weakening of his only hope for bridgework foundation.

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Our present method of constructing projected and intervening dummies receives only slight criticism. The interchangeable facing has solved one problem that will perpetuate the metal span in bridgework so long as any of us, now concerned, will live.

Our case records prove that the veneered metal span, in point of usefulness, strength and durability, will never yield to the all porcelain or supported all porcelain span in bridgework. This being conclusive, it is only our task to find an abutment, telescopic in principle, that will compare with the strength and durability of the metal span.

In searching for this crown, we should consider, in a scientific manner, the most important requisites for such a device. To obviate stump amputation it must be telescopic in application. Adhering to the theory of the metal spans in bridgework, the main body of this crown must be constructed of a tough, high fusing, non-oxydizable metal, susceptible of soldering.

To be telescopic, this metal must be welded into the form of a cap with its inner surfaces conformed to the axial surfaces of the prepared stump. That portion of the axial surface comprising the labial or buccal aspect of the stump being convex, would necessitate convexity of the outer labial or buccal surface of a band adapted over the stump.

To present a natural appearance, the labial or buccal aspect of the band must be veneered with a porcelain. The axial surface of the band, comprising the labial or buccal aspect, being convex, the interchangeable facing, lacking the corresponding curvature, must be abandoned.

A porcelain facing with the required curvature, bounded mesio-distally and incisally, with a protecting metal, must be provided. The facing must be thin and possess no form of attachments baked into its body. A means of maintaining the veneer must be provided on the labial or buccal surface of the bands. The cap must be provided with a box on the labial or buccal surface to receive this veneer.

The floor of the box must be provided with means of attachment to maintain the veneer. The outlines of the box must be formed into the corresponding outlines of the labial or buccal surface of a normal tooth crown.

From powdered porcelain bodies, mixed into a paste, the facing must be hand-molded into the box. The completed crown must present a substantial porcelain front, with an exposed lingual surface to accommodate soldering.

Two years ago the writer determined to experiment along these lines, and, after exhaustive experimentation, has developed a crown on the foregoing principle that is as flawless in construction and technic as any

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crown that has been used for years. Single crowns, and crowns incorporated in extensive bridgework, have stood the test with gratifying results.

Technique of Construction.

Stump preparation is very similar to that for gold crowns. To allow for thickness of veneer baked on these crowns, the labial or buccal surfaces of stump should be ground well back. The mesio-distal



FIG. 1.

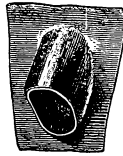


FIG. 2.

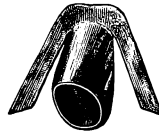


FIG. 3.



FIG. 4.



FIG. 5.



FIG. 6.



FIG. 7.

diameter of the stump should be reduced to allow for mesio-distal walls of box. With the exception of contouring, the band construction is very similar to that of the gold crown.

In constructing a crown for any of the six anterior teeth, an accurate wire measure of cervical stump circumference is secured, from which the proper length of a piece of platinum plate, 28 gauge, is cut. The plate is formed into a band and the terminals soldered with pure gold. On account of combining with porcelain, no flux should be used. The band is scalloped for the lingual slope and thoroughly adapted over the stump until it slips on and off easily. The cervical margin is properly trimmed to prevent encroachment, and the incisal end trimmed just a fraction shorter than the length of contiguous natural teeth.

In the final adapting the band should be tilted well in against the labial or buccal surface of stump, so as to be depressed from the labial or

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buccal surface of contiguous natural teeth. This depression must be in proportion to thickness of veneer used. The band should not be contoured; the approximal walls should parallel each other as seen in Fig. 1.

A piece of 28-gauge platinum plate is seated and soldered over the lingual slope, with a margin extending well over the outer borders of lingual slope, seen in Fig. 2. This margin is utilized in the formation of the porcelain box. By shearing the overlapping metal close along the approximal walls of band to within one-eighth of an inch to incisal end of metal margin, mesial and distal wings are formed, as seen in Fig. 3.

With the use of flat-nose pliers, these wings are placed along the approximal surfaces of band forming the mesial and distal walls of the box, dividing the band into labial and lingual portions, as seen in Fig. 4. The mesial and distal walls of box are formed into the outlines of a normal tooth crown and soldered with pure gold, as seen in Fig. 5. The incisal wall of the box is formed by introverting the overlapping metal and shaping it into the form of the cutting edge of a normal tooth. The incisal wall of box should be finished at a right angle to the labial or buccal surface of band. This is important, as the porcelain at this point should abut against the metal with a thick edge to possess the best resisting force.

The edges of box are stoned and smoothed up with disks, and the mesial and distal walls trimmed to a knife edge to prevent display of metal.

For maintaining the veneer, the floor of box is perforated with a drill until it resembles a mesh. The perforations should be drilled at an angle to each other, as seen in Fig. 5. After drilling, burrs should be cut away from inner surface of band with a small stone.

The band should be plunged into a hot furnace until the pure gold used as solder runs over the floor of box, plating it thoroughly. If the gold solder fails to flow readily, the floor of box may be easily plated with Roman gold. Add turpentine to Roman gold, warm, brush to floor of box, and plunge band into hot furnace without waiting for turpentine to dry. Repeat operation until floor is thoroughly plated.

After plating, the floor of box may be scarified, thus affording hundreds of minute additional attachments for porcelain. With the gold-plated box, the operator will find it much easier to obtain desired shades of porcelain than on the grayish surface of the platinum. The foregoing describes the construction of a crown with an all platinum cap, which is preferable.

If the operator desires a gold finish lingually, solder a strip of 28-gauge platinum one-eighth inch wide, approximately formed into the shape of a horseshoe, over the cutting edge of platinum band and along

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approximal surfaces of band, thus forming the porcelain box. After baking porcelain in box, seat and solder a piece of 28-gauge 22-karat gold plate over lingual slope. Finish and polish.

The cutting edge of either of these crowns may be shod by flowing solder over the metal, thus protecting porcelain facings.

Figs. 6 and 7 shows the construction of a bicuspid or molar. Fig. 6 is a strip of platinum bent to an angle at its central point and soldered over the buccal cusp and along approximal surfaces of band, thus forming a box, seen in Fig. 7. After facing has been baked, a cusp is articulated and soldered on, thus completing crown. All soldering after baking should be done with the furnace.

Technique for Attaching Porcelain.

The process of baking veneer on band is very simple. Any of the powdered porcelain bodies may be used. Best results in attachment are obtained by using the high-fusing porcelain directly on floor of box, and finishing facing with medium fusing porcelain.

Before applying porcelain paste to box, cotton should be stuffed into the band to prevent paste from running through perforations onto inner surface of band. The cotton acts also as a moisture absorber.

Having selected the proper shades of porcelain for the body of veneer, and the shade for the neck area, the main body is brushed on first and allowed to dry slightly. Immediately the porcelain for the neck area is brushed on, with plenty of moisture, and allowed to diffuse itself into the main body. This diffusion must be complete, and oftentimes assisted by intercurrent strokes of the brush. Experience will enable the operator to produce a perfect blending of the two porcelain colorings.

After brushing is finished, the porcelain is thoroughly dried with blotting strips, and smoothed over with the finger until all excess is removed. The band is set before the furnace door to dry out the paste. It is then set into an inclined groove cut into a block of investment material used as a slide. This groove serves as a guide to keep labial surface of band in a horizontal plane during the act of baking. In baking bicuspid and molars, a pit should be dug into the block of investment material large enough to receive lingual surface of band, holding band in an upright position in the furnace during process of baking. Metal slides should not be used on account of bands soldering to them.

The band is placed into the furnace and held 4 to 5 minutes until porcelain is thoroughly glazed. Practically the same rules for furnace work in baking a porcelain inlay is adhered to in baking these facings.

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After the band is removed from the furnace, more porcelain is applied, and the baking process is repeated until the facing is completed flush with the edges of box. Usually two to three bakings will suffice.

The porcelain running into perforations become interlocked after baking, and, conjointly with the scarified attachments, makes it difficult to dislodge these facings. Facings baked a little over or under the desired shade may be quickly removed by heating finished crown to a cherry red and plunging into cold water. Replacing porcelain and rebaking can be done in a few minutes. Note the advantage here over the manufactured facing. Note the time and expense saved.

After baking, the crown is polished and ready to set in the mouth. (Fig. 8.) During process of baking, the floor of box being meshlike, there is no chance for bubbling and no danger of checking porcelain. This is due to the lack of expansion and contraction of the metal in the



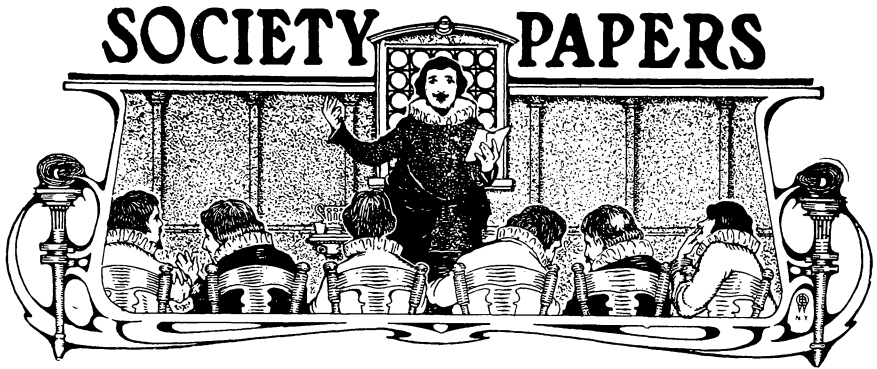
FIG. 8.

perforated floor of box. The operator may place these crowns in a hot furnace and withdraw them at will without the least danger of checking facings.

The platinum caps used in this work are much stronger and tougher than gold caps. The area of cement attachment is far greater than that of the pivot crowns.

Being telescopic, these crowns obviate all root-splitting. The facings are hand-made, and possess individuality and naturalness in the mouth. The absence of the anchor post simplifies entrance to inflamed pulps or diseased roots, in case of need.

Puncturing the lingual plate or metal cusp with a drill affords perfect access to root canal. These crowns do not need to be removed in case of root trouble. In use on abutments, this is vitally important.



The Cosmopolitan Aspect of Dentistry.

EDWARD C. KIRK, D.D.S., ScD., Philadelphia, Pa.

*Read before the Second District Dental Society of the State of New York,
Brooklyn, January 8, 1912.*

It is recognized by sociologists, and by thoughtful and intelligent laymen as well, that communities of human beings possess an organic life which, in many of its mass manifestations, bears striking analogies to the life activities of the individual; that the community as such is often roused into activity by the stimulus of a motive shared by its members in common, and that under such impulses great results for good or ill are wrought out in the evolution of human society.

History is full of instances of the rousing into action of communities of men, nation wide, when the common chord of a general emotion has been struck, and the nation has responded, even in terms of its life's blood, in reaction to the stimulus. Our own war of colonial independence, the war of the Southern rebellion; indeed, all wars are the larger, dramatic and tragic manifestations of the tribal instinct among men, and of an organic communistic life as characteristic of men in the mass, as the ordinary manifestations of temperamental emotion are characteristic of the individual. But "peace hath her victories as well as war," and the organic life of the community is swayed by emotional impulses other than the barbaric spirit of combativeness.

The rapid growth and development of the organic life of communities in our comparatively young and new republic furnishes perhaps more concrete and striking examples of development of the communistic instinct

in its domestic and peaceful expressions, than are readily available from the history of the older nations of Europe.

**Chicago
as an
Object Lesson.**

In 1893 Chicago invited the world to an exposition "illustrative of the development of the new world discovered by Columbus," and for the demonstration of that development no location could have been more happily chosen. Fifty-three years previous to the holding of the World's Columbian Exposition, Chicago was a hamlet of log houses inhabited by something less than one hundred people. By the U. S. census of 1890, just three years previous to the exposition, the population of Chicago was 1,099,850. In 1837 the town covered an area of a little more than two and one-half square miles, while in 1890 its area was over 150 square miles, and it ranked in importance as the second city of our union in extent, population and commercial importance. When it is considered that this wonderful development took place in fifty-three years, notwithstanding the great fire which in 1871 destroyed property covering over two thousand acres and entailing a loss estimated at \$187,000,000, certainly our National Congress was well justified in authorizing the holding of the Columbian Exposition and of designating Chicago as the most illustrative locality in which to set forth the growth and development of the New World of Columbus.

I have utilized the incident of the exposition of 1893, because it is still fresh in the memory of most of us, and especially of those who took an active part in the Dental Congress, which did its part in illustrating the educational progress of our country; and while I have alluded to the motive of the exposition as illustrative of our growth and progress from the national point of view, there is another aspect of that event which is more nearly related to the purpose of this paper to which I wish to direct your attention, and that is what I might term the reflex effect of the exposition upon the organic life of the city. I speak of this matter only as an observer who has formed his impressions from relatively infrequent visits, yet covering a period of time dating from a boyhood spent within its environing influence a full decade and a half before the fateful night when it is said that Mrs. O'Leary's cow kicked over the lamp that started the conflagration in October, 1871. Chicago had grown in civic dimensions at the time of the exposition, so that as a mere study of magnitudes she was a phenomenon well worth the world's time and attention for inspection; she had grown wealthy and prosperous; she had devoted her energies to accumulation, and to the development of her resources, and, flushed with a justifiable pride, she essayed the rôle of hostess with the world as her invited guests. That her entertainment might not be lacking in attractiveness, she set about the business of providing the best that her

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resources would procure. Concerned in the past largely with the development of her material possessions, she had had little or no time to consider how these were to be utilized in the acquisition of those things which appeal directly to the artistic and intellectual life of the community, and which are necessary to the development of that life. The exposition furnished both the opportunity and the means for answering the question which was both felt and expressed by the Chicago community—"How can we spend our money, now that we have made it, so as to secure for ourselves in terms of artistic appreciation and intellectual growth the benefits that wealth, properly utilized, can procure?" The problem was solved in the practical, common sense way that is characteristic of the community that felt the need behind the question; it was done by securing the advice and services of those who were acknowledged experts, giving them *carte blanche* to do their best, and paying the bills when the work was done.

The result was "The Great White City," an exhibition of pure classic Greek architecture, such as the modern world at least had not before seen, nor has it been equaled since. And in this "City," representing the highest type of pure architectural beauty, was domiciled the best achievement of art in all of its varied expressions, music, painting, sculpture and decorative art in all its phases of form, and in color, with myriad examples of human progress in all departments—a vast assemblage of educational forces never previously attained.

And what has resulted! In judging of the success of such a stupendous enterprise the tendency is to take the measure of success in terms of material results, but with these we are not concerned in the present instance. What does stand out as a direct outgrowth of the Columbian Exposition is the uplift that it gave to the intellectual, artistic and spiritual life of the people of the Great Western Metropolis. This it did by establishing new standards of thought and taste, creating new ideals and stimulating a general desire for the attainment of the best in life. It is the elevation of the plane of organic life of the community that is the most striking result produced by the exposition of 1893, as those who knew the Chicago community before and after the holding of her exposition will testify.

The Birth of Dentistry.

But I am sure you are asking what has all this talk about Chicago to do with the Cosmopolitan Aspect of Dentistry? To which I answer, nothing whatever in a direct way, but as an allegory it has very much to do with my topic, in that it illustrates a point of view from which it seems important to consider ourselves and our world relations as an organized profession. We are accustomed to regard dentistry as having been born in 1839 with the successful efforts of Horace Hayden,

Chapin A. Harris and their colleagues to gather together the chaotic dental interests of their time into something like organized working efficiency, and in a certain localized sense their splendid work did culminate in the birth of what we in America generally regard as the organized dental profession. But dentistry is older than the period which elapsed since the time of the Baltimore fathers. Human society had been pregnant, indeed parturient, with her dental offspring for centuries previously, and in many times and places her progeny have established themselves and ministered to the needs of humanity. From these multiple births in many countries have arisen strong independent growths sufficiently vigorous to make their influence felt, and to such a degree that their importance as professional factors cannot be brushed aside nor ignored, but on the contrary they must inevitably be considered and reckoned with in any estimate of the potentialities of dental professional service in the broad cosmopolitan sense.

Unfortunately for that ideal solidarity of our profession, which must be attained before we can hope to achieve our highest efficiency, these multifarious centers of dental development have differed so greatly in individual characteristics that the dental profession of the world to-day is a harlequin mass of heterogeneous activities having but little in common save the single objective feature of their common territory of professional activity, the human mouth and its contained organs. In professional ideals and training, in social relationships, in scientific method and art execution, the sectional differences in dentistry are as great as those which characterize religious denominational distinctions.

**Dentistry Not
Altogether
American.**

The existence of these differences in the organic life activities of a great profession of such universal extent as our own are the evidences of that condition which, when it is manifested in small communities, we characterize by the term "provincialism," and there is a form of this state of mind that is national in scope. Have we not, as a profession in America, given evidence of a current belief that dentistry is a peculiarly American institution? And by so doing have we not implied the belief that there is no dentistry anywhere else that is worth while taking into consideration? I do not lay this charge at the door of the more liberal-minded members of our calling who know better, but certainly we have all met with examples of this type of mind, and is it any less provincial than the apparent view of many American school children that Americans were somehow created by Divine fiat on the Fourth of July, 1776? It is the function of what we call civilization to eradicate the kind of national provincialism here under consideration, and this is most quickly accomplished by the bringing of peoples into contact, so that by



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discussion and mutual representations, or by the mutual study of ideas, as recorded in the literatures of nations, the central truths may be sought out, and the differences due to error and misunderstanding eliminated.

The many independent origins of dental training and practice, together with the comparatively infrequent opportunities for interchange of professional thought and opinion, and our neglect to utilize these opportunities, have all helped to keep alive the distinctions that characterize the professional life of dentistry in its cosmopolitan aspect.

It would seem, however, that we are approaching a new era with respect to the state of things that I have endeavored to point out to you. There never has been a time in the world's history when dentistry has been so much in the public eye, nor a time when the possibilities of dentistry as a public health measure have been under such sympathetic or critical investigation. The attitude of hopeful expectancy upon the part of the general public as to what dentistry can do in the conservation of health and life has everywhere served as a stimulus to make a showing that shall not disappoint the public expectation. In our own country the growing interest manifested in the solving of the deeper underlying problems that are the basis of our professional work and the widespread interest in what we know as the oral hygiene movement, for the prevention of dental diseases and their sequelæ, are all wholesome evidences of a stronger and larger interest in the higher ideals of our calling.

In Europe and Australia, in Japan, and in South America, similar evidences of a general professional awakening are everywhere apparent. But what is equally evident is the unfortunate disagreement among the profession of the several nations as to the ideal lines upon which our professional salvation is to be wrought out.

In America there is evidence of a fairly general uniformity of sentiment as to our professional ideal and, apart from minor and individual differences of opinion, a fair uniformity of belief as to the system of educational training necessary to achieve that ideal. In a general sense the same may be said of the other individual nations, but when we come to compare these fundamental professional characteristics as among the several nations, the differences become striking. Where such differences exist I think we must all agree that they constitute genuine obstacles to professional progress, and their removal is not merely a question of sentiment but a matter of practical importance. Our ideals of professional service determine our educational methods in fitting our members to perform that service, and so long as we are lacking in harmony of ideals and educational method, just so long shall we be disrupted as a profession by conflict of standards and opinion and lacking in the organized solidarity that develops the highest professional efficiency.

The constitutional optimist who justifies his chronic laziness by professing his reliance upon the working out of such a problem by the natural process of evolution, and his protestations of faith in the survival of the fittest, may ultimately witness the fruition of his scheme, but it will be from the point of a disembodied spirit at long distance in the Elysian fields, some aeons of ages hence.

**International
Congress in
America Proposed.**

As practical men I consider it to be our duty to give earnest attention to the rectification of these difficulties now, and I am encouraged to bring them to your attention, because the present time appears to be propitious. We in America have had much to do with the development of a system of dental education, dental practice, and professional organization that has yielded results of a character in many ways so successful that it seems to justify the pride which we naturally feel in our achievement, but I fear we have had a tendency to grow self-centered and contented with what we have done, and to pay too little heed to what has, in the meantime, been going on elsewhere. I am more or less beset with the feeling that the time is close at hand when for our own good it would be well for us to get our attention away from our personal concerns as a profession, and do as Chicago did in 1893, invite the dental world to be our guests, meet them with open minds, and compare ideas, so that we may shake off, as it were, the remnants of our dental provincialism, and do what we can to eliminate sectional differences and harmonize our professional relationships in an international way.

It is not to our professional credit, nor is it indicative of good practical common sense, that a dozen or more distinctive degrees are conferred in different parts of the world at the conclusion of the prescribed courses of dental professional training. It is equally anomalous that the dental profession is divided upon the question of its relation to the profession of medicine, as expressed by the adherents of the stomatological idea and of the dental idea, respectively. It is anomalous that a man adjudged competent to practice dentistry in one nation should be adjudged incompetent to practice the same profession in another, and be required to pursue in its entirety another curriculum of study to do the thing he is already fitted to do. It is discreditable that because of the lack of harmony on these questions, men are wasting valuable time in all nations in pursuing studies that should be eliminated from the several national types of dental curricula, and are in many instances not receiving the training needed to make them safe and efficient practitioners. And, above all, it is discreditable that we are, because of these international differences, lacking not only in a proper professional *esprit de corps*, but are fundamentally deficient in



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that organic efficiency as a profession which comes only from a more harmonious relationship and a more definite community of interest.

I therefore ask for a more earnest and sympathetic consideration of these matters as they present themselves in their cosmopolitan aspect. Here in New York the activities of your local profession have been revitalized into wholesome and, I believe, permanent usefulness through the wise and far-sighted policy of William Wallace Walker, the keynote of whose successful work has been the urgency of his appeal for harmonious and efficient work. My contention is that the same principles, and for the same reasons, should be applied to our international relationships.

In 1914 the Sixth International Dental Congress will be held in London, and at that meeting the place for holding the Seventh Congress will be determined. It is my strong conviction that steps should now be taken, and proper overtures should be made to the London Congress, to hold the Seventh Congress in America, and preferably in New York. As preliminary to that step, and as conducive to the end in view I would suggest that the International Dental Federation be formally invited to hold its 1913 meeting in America; also preferably in or near New York, with a view to making the preliminary arrangements.

These suggestions are made now because the general situation of affairs in dentistry throughout the world indicates that the present is an auspicious time for inaugurating a movement for the holding of an international dental congress in America, and because if such a Congress is to produce results intended to develop in an international way that sympathetic harmony of action which is to ultimately raise the general efficiency of our profession, all of the intervening time will be needed for preparation and for the educational propaganda essential for success. And by success I mean the reflex effect upon dental professional character throughout the world that shall work out for us in time a unity of education, of action, and of ideals that will make us an organized power for good in the service of humanity.

Oral Prophylaxis.

By F. H. SKINNER, D.D.S., Chicago, Ill.
Read before the South Dakota Dental Society.

The principles, technique, practice and benefits derived from oral prophylaxis have been so thoroughly circulated through the medium of lectures, dental journals, and heart-to-heart talks among dentists, that the possibility of bringing any new thought to you at this time is very remote, so that the only excuse for choosing this subject is the comparatively

limited number of the laity who are deriving any benefit from it, and the very small army of practitioners who are really putting it into practice in their everyday work.

Three things are absolutely necessary to make oral prophylaxis a success. First, the dentist must *know the benefits* to be derived from regular systematic prophylactic work; second, he must have the faculty of impressing his patients with that knowledge; third, he must have the ability to demonstrate to them that, with their help, he can get results.

In the *Dental Cosmos* of April, 1910, is a very instructive paper on "Dental Caries," by Dr. L. M. Waugh, of Buffalo, N. Y., and I take the liberty of quoting a part of it to you.

Speaking of dental caries, Dr. Waugh says:

"The general predisposing causes may be divided into—heredity. Pre-natal and post-natal influences. Age. Bodily conditions.

"The fact that caries is much more prevalent in some mouths than in others, and that there are periods of comparative immunity and marked susceptibility have led to much speculation as to the cause.

"Formerly, it was generally thought that so-called hard and soft tooth-structure was primarily responsible for periods of slow and rapid progress. Dr. Black, in 1893, made known the results of analyses of 'hard' and 'soft' teeth, which led him to the opinion that hardness and softness have nothing to do with the inception of caries. Clinical observation would seem to bear this out. It is noticeable in mouths with teeth having enamel of poor texture, and yielding easily to the chisel, that but little decay is present, and again that in mouths containing teeth with dense enamel there is evidence of much caries.

"These facts led Dr. Black to the conclusion that a period of marked tooth decay is due to either a temporary lack of oral hygiene, the exciting cause, bacteria, being active, or to some systemic condition which so changes the constitution of the oral fluids as to favor the formation of microbic plaques.

"It will here be noticed that in either case the problem is a bacteriologic one. The micro-organisms, to cause decalcification, must be in contact with the tooth, and pour their acid by-product directly on its surface. For this there must be some means by which the micro-organisms can be retained in contact with the tooth surfaces, especially if these be smooth. The bacteria, under conditions which interfere with or restrain their growth, form a substance commonly spoken of as gelatinoid: invested with this substance they attach themselves to the tooth surface. This mass is termed the microbic plaque."

Your essayist believes, however, that calcium salts also play an important part in the prevention of dental caries, for in mouths where there

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is an excess of calcium salts we find all kinds of fermentation taking place, and yet little or no caries. If of the light-colored variety, commonly called salivary, it collects in large quantities and gradually, by pressure, forces the soft as well as the bony structure from the teeth. This variety is easily removed, as it seldom works under the gums.

The dark-colored, or so-called "serumal" variety is deposited usually just under the free margin, and any external friction, and even just the movement of the tooth in the alveolus abrades the inner border of the gingivus just as much as if a strip of sandpaper were allowed to remain around the neck of the tooth, thus making an ideal entrance for infection, and unless the tissues are immune to pus-producing bacteria the gums become red, swollen, and congested, suppuration starts, and the alveolar process will be gradually destroyed.

The local and systemic pathological conditions which lead up to the loss of the dental organs have never been settled, so that the results of one investigator's work have not been disputed by another standing equally high in the profession. But I think it is universally admitted that neither pyorrhea nor decay is found where surfaces have always been kept smooth, polished and clean; that all decay is the result of by-products of bacteria from these "microbic plaques," which are nothing more nor less than fermenting liquefied food-products held in a glutinous mass on the teeth, in places where Nature has left a defect in development, or on surfaces favorable to the lodgment of food, where attrition and the combined action of the tongue, cheeks and lips do not remove it, and this mass of plaques (or scales) can be removed only by friction, and if of long standing, or on a surface which has already become etched from successive attacks, it requires *something more than the friction of a tooth-brush to remove it*.

Liquefied food products osmose through microbic plaques, and under their protection are acted upon by acid-producing bacteria, forming (supposedly) lactic acid, which unites with the calcium salts from the enamel, forming calcium lactate, which, when formed, passes out again, making room for a fresh supply of liquefied starches and sugars, to be again converted into acid and call forth a little more of the calcium salts, which never can be replaced in the tooth.

These deposits are most likely to gather just gingivally of the contact point, on the gingival third close to the gum line; and in the fissures or in depressions of malformed teeth. If sulpho-cyanite of potassium, or possibly other allied salts, be present in the saliva, it is claimed by some that these gelatinoid plaques do not form, and the person so favored is immune to decay until there is a change in the chemical constituents of the saliva.

If, as the debris gathers, there is a sufficient quantity of calcium salt to neutralize any quantity of acid formed, no decay will take place, but a crust will gradually form around the necks of the teeth and work rootwise, which, if allowed to remain, will usually result in pyorrhea because of abrasion, lowered vital resistance of the parts and infection.

**Serumal
Calculus.**

Just how this crust of so-called serumal deposit forms is a disputed question. One authority claims it is a deposit from the residue of the breaking down alveolar process; another says it is deposited from the blood and serum, which is constantly oozing from tissue in certain stages of inflammation, or from free ends of small blood vessels which formerly supplied the lost tissue; while another claims that through infection, bruising, or traumatic causes, the circulation of the pericementum is impaired and the serumal calculus is gradually deposited as a result. This usually takes place just under the free margin of the gums. No matter which theory is correct, the duty of the dental operator is to recognize and remove all foreign substance. It is generally observed by men working along this line that where calcium salts gathers in abundance decay is absent, or nearly so, as upon the lingual surfaces of lower incisors, for example; and where decay goes on rapidly, calcium salts are absent. The rougher the surfaces of the teeth the harder it is to remove any foreign substance.

**Care of Teeth
in Childhood.**

It is the essayist's belief that the foundation for most dental trouble is laid in childhood. During the growing period it is hard to get the little folks to take proper care of their teeth; soft accumulations are left to ferment, and if cavities do not actually take place, the victim enters maturity with the gingival third of the enamel roughened and etched, and the foundation for trouble is laid before he begins to take personal pride enough to care for appearances, or to realize the value of a good set of teeth. About the age of maturity the calcium salts, which have been used to build up bone tissue, are not needed in such large quantities by the system, and are thrown out by the eliminating organs.

The saliva takes its share, and as it comes in contact with free ammonia, which is always present in the alimentary canal (especially if there is faulty metabolism or intestinal indigestion), the calcium salts precipitate and lodge on the first hard substance met, usually the teeth.

This process is going on twenty-four hours a day, seven days a week and fifty-two weeks a year, and the catastrophe of dentistry is that a great deal of harm is usually done before the prospective patient realizes there is even any danger.

Again quoting from Dr. Waugh's paper: "If the tooth is kept clean

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and free from bacteria, *dental caries cannot exist*. These facts, when first discovered, gave an enormous impetus to preventive dentistry. This by-product being an acid, it was at first thought that antacid mouthwashes would largely limit, if not control, the disease. This, however, proved of little value, as it was soon shown that acid will appear in the mouth twenty minutes after a meal, and after the mouth fluid has been neutralized by a saturated solution of sodium bicarbonate.

"The germicides, disinfectants, and antiseptics were also enthusiastically employed, and great varieties of so-called mouth-washes were soon foisted upon the profession, but they, too, have proved inadequate, as any agent sufficiently strong to sterilize the mouth would result in serious injury to the soft tissues."

This leads us to the belief that the only effective means of preventing these dental pathological conditions lies in the mechanical removal of all foreign substances and maintaining absolute cleanliness, which brings us to the subject of oral prophylaxis.

Preventive Treatment for Children.

This branch of dentistry to be ideal should start with the eruption of the temporary teeth. As the teeth erupt, both temporary and permanent, the fissures of molars and bicuspid should be covered with cement and kept protected until maturity, or thereafter, if necessary. The technique of this procedure is as follows: Place a cotton roll each side of the tooth to be covered. Have the mother, nurse or your assistant help hold these in place; then, drying the tooth with compressed air or chip blower, wipe off with alcohol and dry again; mix cement to about the consistency used in crown and bridgework, and cover occlusal surfaces with cement; then press to place with finger well vased, which will prevent cement from sticking to finger. Pressure should squeeze out everything except that which is held in the fissures. It will interfere in no way with the interlocking of cusps or with the articulation, but will prevent decay in fissures wherever it adheres. The copper cements probably have more adhesive property than the lighter colored, but are somewhat objectionable on account of their color. The deeper the fissure, the more liable to decay, but if covered before decalcification begins, the longer cement will last in it because of its depth. This may require renewing from every one to five years, but it will surely prevent decay of fissures, which is three-fourths of the battle with juvenile patients.

Stain for Microbic Plaques.

Microbic plaques and small granules of calcific deposits are transparent, or so nearly the color of the teeth that they are frequently invisible to the eye. The sense of touch, after months of experience with a hand polisher or orange-wood stick, will only im-

perfectly indicate to us whether or not a surface is clean, so that the only way we have of absolutely proving whether all foreign substance is removed is by the use of a staining or disclosing solution.

The following formula has proven very satisfactory to those who have given it a trial:

| | |
|--------------------------------------|---------|
| Iodine crystals | Grs. 50 |
| Potassium Iodide | Grs. 15 |
| Zinc Iodide | Grs. 15 |
| Glycerine | Drs. 4 |
| Aqua | Drs. 4 |
| Mix. Put up in glass stopper bottle. | |
| Sig.: Use for disclosing solution. | |

This is an aqueous solution of iodine which, while it is slightly astringent, will not smart or blister the soft tissues, and produces little or no sensation when painted on the teeth and gums even of young children. It leaves no stain on a clean polished surface, but the minutest patch of plaques can be detected readily by its use.

Dental prophylaxis is a term used to distinguish thorough, periodical work of preventing these dental pathological conditions from the so-called "cleaning," which usually means polishing the buccal and labial surfaces of the teeth with a rubber cup or brush wheel used in the hand piece of a dental engine.

**Technique
of Prophylaxis.**

For proper polishing in a prophylactic treatment, points of two different shapes, held in porte polishers, are required: first a broad, flat point to polish the distal surface of the last molars, and buccal and lingual surfaces of the other teeth; and second, a thin, sharp point to reach the interproximal surfaces and near the point of contact. Dental tape is the only means of polishing one of the most vulnerable and inaccessible parts, *i.e.*, the contact point and its immediate vicinity. Then we should stain and polish until the disclosing solution will show all surfaces clean. Of course, any substance which is not readily dislodged with the wooden point and an abrasive should be removed with trimmers, files or scalers, and the surface thoroughly polished.

It is our duty to plane or file, and polish any etched or roughened surface, for no patient can keep a rough surface clean. Etched surfaces are detected only by careful hand polishing aided by the use of a disclosing solution.

**Instructions
to Patients.**

When a new patient presents, unless he is suffering pain, let him know what is on his teeth. This can be done by painting the surfaces of the teeth with the disclosing solution; this will not stain clean,

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smooth tooth surfaces at all. Give him a hand mirror and let him see how much accumulation there is on even apparently clean teeth. Suggest to him that if as much infectious and decaying matter were allowed to remain on one place on his hand, for weeks and weeks, as is allowed to remain on the teeth, he would be very much surprised if the tissue surrounding such a mass did not become inflamed and hypersensitive, as often takes place with the tissues surrounding the teeth. While you are removing deposits, and planing or filing rough surfaces and polishing them down smooth, explain that the enamel of teeth is from 95 per cent. to 98 per cent. calcium salts (*Tomes Dental Anatomy*, page 14); that decay is merely the result of a chemical reaction between the calcium salts of the enamel and the acids which result from fermentation, just as the rusting of a piece of steel is a chemical reaction, and is just as preventable by polishing; how starches are converted into sugars and sugars into acids, and that all dental caries takes place under plaques (scales), *and only under plaques*; how free acid in the saliva does not destroy the enamel, but that no mouth wash can reach acid under these plaques, and that no amount of brushing seems to entirely remove them, but frequently improper brushing with an abrasive does a great deal of injury to gums and tooth surfaces.

Instructions for Brushing the Teeth,

Also teach him the proper way to handle a brush. The essayist's plan is always to begin brushing on grinding surfaces of the back teeth, with a backward and forward motion, keeping the bristles pointed rootwise, rotating the brush from side to side, so that the bristles just miss the gums on both lingual and buccal surfaces; this is to clean the fissures. Then placing the brush well up on the gums, with a rolling motion, brush towards the occlusal surface, *i.e.*, up on the lower and down on the upper teeth, on both lingual and buccal surfaces. When brushing the lingual surfaces of lower molars, the tongue should be drawn well back so as to expose those surfaces of the teeth to the brush. Frequently I give a demonstration showing the patient how to use a brush, and then have him practice before me until he uses it properly.

It is a very common thing for a patient to start brushing always in one place, usually at the gingival margins of some of the anterior teeth. This should be watched for and stopped, for while few do too much brushing, the brush is always stiffer when first put into the mouth, and this in connection with the first grit, if powder is used, applied in one place year after year, is to the gums and very thinly protected necks of the teeth what the constant dropping of water is to a stone.

I recommend rather small brushes of medium texture. The smaller adult Rolling brush, medium, will meet the requirements in the majority

of cases, and a much smaller brush should be used on lingual surfaces of anterior teeth, because a large one bridges over the inside of the arch. *Enough brushes should be kept on hand all the time, so that each brush is used only once in twenty-four hours*, and the teeth and gums should be brushed after each meal.

The chief benefit derived from the use of a toothbrush is the hardened and healthy condition of the gums obtained from massage, but as far as effecting cleanliness is concerned, the brush removes only a portion of loose debris from the tooth surfaces, and, if properly handled, does as much damage as it does good.

Cutter's ribbon tape should be used to polish the approximal surfaces, at least once each day. Care should be taken when putting the tape past the contact point not to allow it to snap against the gum tissue. Snapping against the gums can be avoided by taking a short hold, keeping tape tight, and holding the buccal end somewhat higher than the lingual, so that the tape passes the contact points rather sideways instead of snapping down on the gums.

This, with periodical visits to the dentist, will keep the teeth esthetically clean, but within from two to six days after a prophylactic treatment the tongue will discover little rough patches gathering on the teeth again, and the use of the disclosing solution verifies the discoveries of the tongue. The toothbrush will not prevent the formation of these fermenting patches, nor will it entirely remove them, even when used intelligently, and, to prevent dental caries, it is necessary to have the teeth more than "near clean."

For a number of years I have been giving my patients orange-wood sticks and suitably shaped instruments to carry wooden points, as a porte polisher, with which to polish off the debris which the toothbrush leaves. A No. 4 Johnson & Johnson cotton roll, dusted with Carmi-Lustro, held in a carrier, takes off debris wherever it reaches more effectually than a toothbrush, and puts a beautiful luster on the teeth. This can also be used to wipe off exfoliated cells and other debris from the gums, cheeks and tongue, and is an ideal way to massage the gums, for circulation can be stimulated until there is a good healthy glow, with absolutely no injury to the most tender mucous membrane. The handle end of cotton carrier can be used as a tongue scraper. Patients are instructed to use the cotton carrier several times daily, and to go over the mouth thoroughly once or twice a week with the polisher. Seventy-five per cent. of my patients have become quite proficient in the use of these. Some are very awkward when they first try to use a polisher, but what child is not awkward in his first attempt to use a toothbrush? It is only by repeated and persistent instructions and demonstrations that the majority of humanity arrive at

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any degree of proficiency with either a brush, polisher or tape. Any person is awkward the first time he tries to use a pen, but persistent practice makes perfect. I frequently use this illustration.

Toothpicks. There has been a good deal said about toothpicks pro and con, one person advocating a quill and condemning a wooden toothpick, and his next door neighbor holding just the opposite views. If food has jammed between the teeth, I would advocate the quickest means of getting it out, whether with silk floss or toothpicks, using care not to injure the gums. In fact, I think rubbing the tooth surfaces and gently massaging the gums with a wooden pick is productive of good results, for it stimulates the circulation and breaks up and removes microbic plaques and other debris, but the pernicious habit of systematically jamming a toothpick into the interproximal space, crowding the gum tissue down, and then giving the pick a twist, thereby lacerating and cutting the gums, should always be watched for and stopped just as much as the habit of starting to brush in one place or cross brushing should be watched for and stopped.

Small children should visit the dentist occasionally, but in addition, mothers or nurses should be taught how to use a polisher and floss, and to watch for, and remove, all foreign substances, which are sure to gather on the teeth of most children. Children six, seven or eight years old frequently become educated to the feeling of clean tooth surfaces, so that they detect foreign substances on their own teeth, and learn to handle a polisher and tape, as well as cotton carrier and brush, with considerable ability.

Self-Treatment. Patients are provided with the formula for the disclosing solution, a mouth mirror, polisher and cotton carrier. I recommend no coarser grit than XXX silex for polishing teeth in the office, and usually a tooth powder for the home use of the polisher by the patient.

Even rubbing with the wood points without any grit takes off debris which the brush fails to remove. Soda bicarbonate used on the polisher makes it possible to polish any sensitive places, and is also serviceable for cleaning after the tooth surfaces have been made smooth.

The argument may be used that patients will do damage in this way. A freshly extracted tooth can be cut considerably with a brush and precipitated chalk in thirty minutes of vigorous brushing, whereas three hours of rubbing with the same grit with a wooden point makes no impression except to get a beautifully polished surface. The only reason I can give for this is that the bristles of a brush are so hard that the whole crystal of grit becomes imbedded in the tooth, whereas the wood is soft

enough so that the grit becomes imbedded in the wood, leaving just enough exposed for polishing.

In a few instances where patients have been abroad, or for various causes knew they would be unable to come in for regular prophylactic treatments, I have given them a scaler or two, in addition to the polisher, tape, etc., and upon their return, in six months or a year, have been well pleased to find in what good condition their mouths were, with practically no deposit, either soft or calcic, although previous to this régime of cleanliness, deposits had gathered very rapidly. I mention this to show how thorough an intelligent person can be when given proper instructions.

For the first six or twelve months a patient should have a prophylactic treatment once every thirty days, but as the mouth becomes healthy and the tooth surfaces polished, and the patient learns how to maintain this condition, the periods for treatment may be extended, but no mouth should go over three months without a prophylactic treatment.

Instruct patients not to avoid crusts and other hard foods, for just as an athlete is developed by strenuous exercise, so is the blood supply stimulated and the teeth, jaws and muscles of mastication developed and kept healthy by strenuous exercise. Then, too, thorough mastication of hard food helps to change the immediate environment of the teeth, and if food is thoroughly trituated and ensalivated, more nourishment is obtained from it, and there will be less desire for over-eating, and therefore less danger of unused food products lying in the intestinal tract and fermenting and causing intestinal toxemia to take place. By preventing pathological conditions we lend our aid towards the preservation of health to the entire system.

With ideal oral prophylaxis we should be able to bring a child into manhood or womanhood with a comparatively sound, healthy set of teeth, very small fillings, if any, and well educated as to how a clean set of teeth feels.

**Prophylaxis
During
Pregnancy.**

There is no time when prophylaxis is required more than during pregnancy. The bodily resistance of the prospective mother is greatly reduced, and, without proper care, decay progresses very rapidly.

The calcium salts, which should be thrown out to protect the teeth, go to make up bone and tissue for the coming child. The attending physician should recommend a visit to the dentist for prophylaxis as soon as this condition has been diagnosed. There should be a prophylactic treatment every month. If the patient is not able to come to the dentist's office, she should have professional prophylactic treatment at home, and as soon as she is able to be out, one of the first visits should be to the dentist. Prophylaxis should be kept up once a month until the

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child is weaned and the mother comes back to her normally healthy condition. We should prove that the old saying of a "tooth for a child" is a fallacy. In cases where I have been able to get patients to follow the advice given them regarding prophylaxis at this time, a number of mothers have come through this trying period without even as much as a decalcified spot forming on any of the teeth.

Ideal Prophylaxis.

Unfortunately we cannot always practice ideal prophylaxis, but are obliged to take cases as they come to us. If the patient is not suffering pain, the first thing to do is to get the teeth clean. This not only retards the process of destruction and gives us a more pleasing mouth in which to work, but it allows us to make suggestions on home care, which should be very beneficial to the patient. If it is possible to get only one, two or three teeth clean in the first hour's sitting, *do it well*; take one tooth to scale, smooth and polish until it is finished, before starting on a new one. Teach the patient how to use the iodine disclosing solution, a polisher and ribbon floss, and impress upon him that at the next sitting you do not want to see the disclosing solution leave a stain any place on the teeth which you have gone over at the present sitting; that the next time you will go over as many more teeth as you are able to, and so on until the entire mouth is put in a healthy condition. Then, if done periodically, thirty to sixty minutes is all that is required for a prophylactic treatment.

Having the patient paint the teeth with the iodine disclosing solution once or twice a week will, by virtue of the disinfecting property of the iodine, stop a certain percentage of decay and tend to keep the gums hard and healthy, but its principal value to us is in locating plaques which are transparent, hence invisible to the eye without its aid.

Shallow, cervical cavities can be ground, filed or planed out, and a high polish put on the tooth at this point. This may leave some sensitive places, but by using soda bicarbonate the tenderness can be relieved so that the patient can help to keep them clean. Milk of Magnesia (Phillips) may be recommended for its acid neutralizing properties. Painting with deliquescent zinc chloride does a great deal to take out tenderness. I also use a good deal of 10 per cent. nitrate of silver on the surfaces which show. This does not stain except on actual decay; 40 per cent. can be used on places which do not often come to view. Either solution retards the progress of destruction. Places of this description should be polished with bicarbonate of soda every day as long as they remain sensitive. Tenderness usually leaves in from one to four weeks after all fermentation has been stopped.

I have quite a number of patients whose teeth were hypersensitive and going rapidly when this régime of clean surfaces was commenced, but under this care they have not had a new cavity in seven or eight years; their mouths are healthy with not a sensitive tooth in them. Of course, if sufficient care is taken to prevent decay, pyorrhea is an unknown quantity.

Fees.

This work should command as high or even higher fees per hour than we would receive if we were making fillings, inlays, crowns, bridges or plates, for we are rendering our patients better service, and a just compensation should be had. In the writer's opinion the class of patients who want this work is far more satisfactory than those who look only to having pain relieved and broken-down teeth repaired.

**Miscellaneous
Suggestions.**

All cavities should be filled. If improperly contoured fillings be present, they should be replaced with properly contoured ones, carefully finished at gingival margins. When preparing cavities, extend the margins to where they are protected by gum tissue, or can be reached easily with the brush, polisher or ribbon floss (*"Extension for Prevention"*), then cause the cavity margins, as well as all other surfaces, to become immune to decay, by the process of absolute cleanliness. In other words, *"Extension for Prevention," but this time let it be the extension of the immune surfaces.*

If crown or bridge work, which irritates the tissues, which cannot be kept clean, or which is improperly occluded, be present, it should be replaced with work which meets the ideal requirements. In all extensive cases some of the removable forms are always preferable. It is impossible to maintain a healthy condition where a partial plate is worn, which is wholly dependent upon the gum tissues for its resistance to mastication.

Every school where dentistry is taught should have a chair on oral prophylaxis. The man at the head of this department should be chosen as carefully as the professor of operative dentistry. These two chairs should be on the best of terms, and should work in harmony, *i.e.*, fillings, crowns, bridges, etc., should be constructed along the lines that can be kept clean.

Students who have entered a dental college should have a careful examination made of their oral condition; records should be kept, and if the students are not giving their own mouths proper care, instructions should be given them.

There should be periodical prophylactic treatments and examinations, and a part of their grading should depend upon these examinations. In this way every student would know from experience the feeling of a clean,

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healthy mouth, and unless a man really knows, and believes, what he is advocating, his arguments lack force when he gets out into practice and tries to instruct his patients.

Any student who lacks the ability or does not take pride enough in his own mouth or his chosen profession to practice preventive dentistry on himself, should not be allowed to graduate.

We will do our patients better service by preventing pathological conditions of the teeth, gums and alveolar process than by inserting the best filling, crown, bridge or plate that our most skilled operators are supplying to-day.

Nitrous Oxid and Oxygen for Tooth Extraction.

H. B. CLARK, D.D.S., St. Paul, Minn.

Read before the Scandanavian American Dental Society, March 23, 1912.

This subject is of the greatest interest to me, and is one of which more is sure to be heard as the profession learns more of its possibilities.

Particularly is this true of the analgesia, which may be obtained by the use of nitrous oxid and oxygen. In analgesia we do not have a patient anesthetized; the patient is conscious, and should at all times be able to assist the operator in such ways as by opening his mouth, keeping his tongue out of the way, and, in fact, acting the same as any patient, and yet we should be able to prepare sensitive cavities without pain.

When it becomes necessary to extract teeth some patients will ask for a general anesthetic, and others will become greatly agitated if anything of the sort is suggested, but if the patient has the confidence he should have in his dentist, it is generally quite easy to induce him to allow his dentist to use whatever method of anesthesia seems best suited for the case.

Many prefer nitrous oxid and oxygen for nearly all cases, because with it they can assure the patient that he will feel no pain even if he has a very sore tooth to be extracted, and because one who has had considerable experience in its use can confidently assure any patient who is in fair physical condition that he may be anesthetized by this method with absolute safety, and that this gas can be administered with comparative safety in cases where the administration of chloroform, or even cocaine hyperdermatically, would be liable to produce alarming symptoms.

**Psychological
Management
of Patients.**

When a patient comes into the office to take gas, if you can keep him or her, or any one who may be present, from telling how he once heard of someone who died, or whose health was seriously injured under like circumstances, you have accomplished something well worth while, for that is just the subject quite likely to be introduced, unless you talk to them and make them talk and think about something entirely different. Keep this in mind, and try not to give them an opportunity to even think of any of the "old women's tales" they have heard. We often meet fellows who have a number of little speeches all learned by heart, so that no matter what the occasion, if called upon for a speech, one of them can be made to do. You can prepare special conversation for extracting cases, and use it with slight variations in nearly every case. People are wonderfully affected by those around them; if in the company of a happy, jolly good fellow, you catch his spirit; if with a sour, gloomy fellow, his gloom penetrates you through and through. So it is, if the dentist is scared half to death; is afraid the teeth will all break off, or the patient die from the anesthetic, and shows that he is frightened and nervous, he will soon have the patient in a nervous condition in which the administration of any anesthetic would be very difficult. On the other hand, if the dentist is at least outwardly calm and composed, and goes quietly and systematically about his business, keeping up a conversation on some cheerful topic all the while, the mental state of the patient will be such that the administration of the gas will be much easier.

After a patient has taken the gas, and as consciousness begins to return, let the first words spoken be something like these: "Well, you did well; it did not hurt you a bit, did it?" and usually, if the gas was given correctly, he will agree with you.

But let some one say: "My, but you looked awful; didn't it hurt you terribly?" and, after hearing this in his semi-conscious condition, he will often agree with it, at least until he fully recovers.

**Advance
Preparations.**

The teeth to be extracted should be carefully examined, and the necessary forceps selected; then the operator should plan which tooth is to be extracted first, the order in which the rest are to be removed, and arrange the instruments on the bracket table and the mouth prop between the teeth, in accordance with this plan. The idea is to have your plans all made so that you do not have to stop to think of what you are to do next. "Plan your work well, then work your plan well."

Look at each tooth or root as you are about to extract it, see that the instrument is properly placed; then go down on the root just as far as you can; this does not hurt the patient; it cuts a number of the periodontal

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fibres and often springs the process a little, and thus enables you to remove the tooth more easily and quickly, and lessens the danger of breaking the root. Either the thumb or one of the fingers should always be so placed between the handles of the forceps as to act as a guard to prevent the too tight closure of the beaks on a tooth. Give every tooth a buccolingual or rotary movement, if an anterior, before attempting to lift it from its socket. After a tooth has been moved even a small fraction of an inch with the forceps, it is comparatively easy to extract.

The tooth being extracted should never be out of the sight of the extractor's eye, as in this event adjacent sound teeth are liable to be injured by slipping of the instrument, or portions of the tongue or other tissue are liable to be caught and torn. Not much difficulty is found in seeing upper teeth where forceps of the bayonette pattern are used, but to get a good view of the lower teeth the operator needs instruments made in rights and lefts, such as the patterns furnished by our good friend, Dr. Nevius. To learn to extract well with nitrous oxid, one should start with easy cases, teeth that present no difficulties at all. He should, however, plan each case as outlined above.

Extraction of Impacted Third Molars.

Regarding the extraction of impacted lower third molars, I will pass around several X-ray pictures showing some cases recently operated upon. You will see from examining these pictures that it would be impossible to lift these teeth from their beds without some preparation. A disc is passed through between the distal of the second molar and the occlusal portion of the third molar, cutting at the expense of the third molar cusps. It is usually impossible to remove a tooth like this without first cutting away some of the process. We cut through with the disc before the patient is anesthetized, using just a drop of local anesthetic in the gum buccally and lingually where the disc is liable to cut into it. We then take a large bi-bevel drill and cut right down along the buccal side of the third molar. After we have cut the bone away pretty well along the buccal side, we turn our attention to the bone over the distal portion, and cut that away as well. The lingual process is usually extremely thin, and it is not necessary to cut it away. After this preparation, we finish the extraction by lifting the tooth upward and backward with an elevator or suitable forceps. After this preparation has been made the removing is an extremely simple matter.

After Treatment.

The after treatment is as follows: First irrigate thoroughly with mild hot solution, using a bulb syringe and washing forcibly. Next pack the socket with a strip of iodoform gauze saturated with a paste,

composed of orthoform and euophen, with liquid vaseline Q.S. (known as Buckley's euophen paste). This controls the pain, and should be repeated each twenty-four hours until the patient does not complain of pain, when it is left out. Always irrigate thoroughly when you change the dressing, and when the dressings are discontinued provide the patient with a syringe, so that he can flush out the cavity after meals until it fills in. Patients are advised to go home and apply hot wet cloths constantly; are given a grain or more of calomel, divided into several doses, the last dose to be followed by a dose of salts or citrate of magnesia. Five-grain aspirin tablets, taken every three or four hours, proves of value in making the patient comfortable.

In the administration of nitrous oxid and oxygen
the uninitiated seem to think that nitrous oxid is to
put the patient to sleep and the oxygen is to revive
him.

**Why Nitrous Oxid
and Oxygen
Are Combined.**

This is not the case. Oxygen is used only to supply the blood with necessary oxygen, and only so much should be given as will keep the patient's color good.

We start a nitrous oxid and oxygen anesthetic for a mouth operation by placing our inhaler over the nose and starting the nitrous oxid flowing into the apparatus, so that it can be inhaled; with each inhalation the exhaling valve in the nasal inhaler closes, so that air cannot enter, and the gas is drawn into the lungs.

As the patient exhales, the exhaling valve opens
and the mixed contents of the lungs escape into the
air. With each inhalation and exhalation the con-
tents of the lungs become more nearly pure nitrous oxid.

Cyanosis.

The same phenomenon is occurring in the blood, viz.: With each breath the oxygen in the blood is becoming changed into carbon-dioxid and exhaled, and the blood is becoming loaded with nitrous oxid. While the chemical composition of nitrous oxid is N_2O , it is impossible for the blood to obtain oxygen from nitrous oxid. As a consequence, we soon get cyanosis, if oxygen is not administered. Cyanosis is that condition seen in fainting, choking, coal-gas asphyxia, paralysis of the circulatory center by chloroform, and so on. The most characteristic symptom of asphyxia is the discoloration of the skin, and is probably most frequently spoken of as the patient "getting black in the face," although, as a matter of fact, the entire skin surface is of a darker hue, and if the blood is escaping from the arteries or the veins it will be readily seen to be a dull, bluish-red. Blood, as you know, is only made red by the red blood cor-

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puscles, and they owe their red color to oxy-hemoglobin, which is made by oxygen and hemoglobin.

When the oxygen supply is cut off, whether by inhalation of gases not containing oxygen or by stoppage of circulation, so that the blood does not have a chance to pick up oxygen in the lungs, oxy-hemoglobin is not made, and consequently the blood loses the bright red color given it by oxygen and hemoglobin.

If cyanosis is caused by breathing gases not containing oxygen, it quickly disappears upon allowing the patient to breathe pure air, or upon adding pure oxygen to the gas—being breathed. The formation of oxy-hemoglobin begins again and goes on, and the cyanosis vanishes.

This is supposing that the respiratory machinery is working properly. If, however, the nerve center controlling circulation is paralyzed, as is the case when a patient succumbs from the administration of chloroform, then before oxygen can be of service at all, a whip must be applied to the heart, in the form of a hyperdermic of strychnia, or something of that sort.

In what has just been said lies the explanation of the reason why a physician or a surgeon will usually become greatly alarmed if a patient becomes cyanotic under nitrous oxid. He is schooled to expect a patient to die, or to be resuscitated with difficulty, if he become very cyanotic under anesthesia, because he thoughtlessly, or intuitively, from his long association with the anesthetics more commonly used by surgeons, attributes the condition to an arrest of circulation.

On the other hand, the dentist will give nitrous oxid until a patient is extremely cyanotic, then withdraw his anesthetic and begin to extract teeth, and give no particular thought to the patient, because he has learned from experience that the patient will make an uneventful recovery, and too often before he has time to complete his work.

Experiments have shown that the red blood corpuscles, after being made to carry ether in anesthesia of fifteen minutes' duration, have not been normal after five days, while no change was found in the red blood cells after nitrous oxid and oxygen anesthesia of that duration or longer.

It was supposed for many, many years—too many years—that nitrous oxid would not produce anesthesia without depriving the patient of air or oxygen and the production of cyanosis, and I believe that so-called anesthesia, where nitrous oxid is used without oxygen, is one-half anesthesia and one-half cyanosis.

It is true, however, that nitrous oxid must be inhaled *almost* pure if anesthesia is to be obtained by its administration, and it is also true that, with but few exceptions, nitrous oxid will not produce anesthesia if *air* enough is mixed with it to prevent cyanosis from lack of oxygen, but a

state of analgesia will be produced in which a dentist can cut cavities without the patient feeling pain, though the patient will be conscious, but without fear, during pulp exposures, tooth extractions, or cutting into soft tissues.

Mixtures of Nitrous Oxid and Oxygen.

The question which naturally presents now is, if we cannot obtain anesthesia with nitrous oxid and air, how can we do it with nitrous oxid and oxygen? If I can answer this question in such a manner as to make it clear, then I shall feel well repaid. The answer is simply that by giving a very small quantity of oxygen with the nitrous oxid, the nitrous oxid is inhaled *almost* pure, and still the blood receives oxygen enough to keep it nearly normal. The air we breathe is composed of only one-fifth oxygen; the rest is nitrogen and other gases which have no vital function in the process of respiration. We may therefore give a patient one-fifth oxygen and four-fifths gas without deviating from the normal condition, except that the gas has its characteristic effect while the inert gases have none.

One-fifth oxygen and four-fifths N_2O gas will not, however, produce anesthesia; neither will any given percentage in all cases, but it is possible with but few exceptions for the experienced administrator to maintain a satisfactory anesthesia without cyanosis or danger, for any length of time, from two to three minutes to that of many hours.

It is unfortunate that no definite percentages can be used. If we could have a standard mixture we could ask the Lennox Chemical Company to bottle the gases for us mixed in the correct proportion. But some patients will require much nitrous oxid and little oxygen, while others will require, and tolerate, more oxygen.

Method of Administration.

The apparatus for administration consists of a stand holding two cylinders of nitrous oxid and two of oxygen; a nitrous oxid bag and an oxygen bag, a valve situated midway between the two bags, which, when open, allows a free flow of nitrous oxid to the inhaler from the nitrous oxid bag, or, by opening it a little more, oxygen is allowed to flow from the oxygen bag and join the stream of nitrous oxid.

All being in readiness, the bags being partially distended with the gases, the inhaler is placed over the nose. The exhaler valve is opened, and the patient is instructed to breathe deeply through the nose. The air valve may be opened at first, but should be closed almost at once. After giving about six inhalations the mouth prop should be put in place and one-fourth of a hollow rubber ball placed over the mouth, so that air may be excluded.

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Until the patient is very nearly anesthetized he should receive straight nitrous oxid. As the blood contains sufficient oxygen to carry him along for a while, as he approaches the anesthetic state the indicator on the machine may be turned to just about one point of oxygen. If this mixture does not produce anesthesia you should turn back to pure nitrous oxid, and carry the patient along on pure nitrous oxid as long as he remains anesthetized and shows no cyanosis. If he begins to show blue, or there is a twitching of muscles of his arms or legs, oxygen is indicated. With experience you learn to give oxygen so as to avoid these symptoms entirely. When you give some oxygen you will notice it is necessary to wait until about two full respirations are taken before you will see a change in the patient's condition. Do not expect to see the cyanosis disappear instantly when you admit oxygen, and do not make the mistake of throwing in too much oxygen, as an extremely small quantity of pure oxygen suffices. If the assistant who is operating the machine watches the patient carefully and understands the working of the machine thoroughly, it is quite simple when once mastered, and a patient may be held in complete anesthesia just as long as is necessary for any operation, and will recover almost immediately when the anesthetic is withdrawn, and but rarely suffers any inconvenience or after effects. He certainly will have no lasting bad effects from this anesthetic. The only danger point is the danger of depriving the patient for too long a time of sufficient oxygen, and thereby paralyzing his respiratory system. But should this be done, and the patient drift into a bad condition, artificial respiration, with pure oxygen, if administered promptly, will immediately relieve the situation.

Dangers.

If respiration is good, cyanosis, while it is undesirable, unnecessary, and should be avoided, need cause no alarm.

If, however, respiration stops, and a patient is cyanotic and remains so, there is cause for alarm, and quick and decisive action is demanded if you do not wish to have the undertaker call. Such cases are rare, but owing to their unexpectedness, are the more apt to find us unprepared.

The anesthetic should be stopped, chair thrown back, mouth opened with a suitable gag, tongue drawn out, and artificial respiration begun at once. To produce artificial respiration have the patient flat on his back; if necessary, on the floor; get back of him and, grasping his wrists, draw his arms back as far as you possibly can (recall the position assumed by a diver as he holds his hands way up and fills his lungs with air preparatory to taking the plunge), then press them down to the sides as he would do if trying to force all the air from the lungs. Try these two positions yourself, that you may be impressed with what is desired. The idea is to in-

duce, by mechanical action, the filling and emptying of the lungs. Should the patient still show no signs of life, keep up the movement faithfully, keep the tongue drawn out, and, in addition, as you induce the filling of the lungs at the same time administer pure oxygen under pressure; inflate the lungs with it, then, as you force exhalation, ease up with the oxygen, allow the lungs to empty, and repeat the operation. This will almost bring a dead man to life if carried out as directed, and I believe that we once prevented a death while giving an anesthetic for a major operation by following this plan. A hypodermic of $\frac{1}{150}$ grain atropine proved of some assistance. Never make the serious mistake of leaving the patient and seeking for aid, as the time lost thus could never be regained.

In closing I would say this, that were I again to enter the general practice of dentistry, I would have a modern gas-oxygen apparatus and large cylinders with pressure regulations, right beside my chair. I would, with N_2O and O , induce analgesia for every operation causing any pain or serious nerve strain, and would anesthetize all patients where making pulp exposures in molars and bicuspidis for removal of pulps easy of access; opening sore teeth or cutting abscesses, and thereby not only enlarge my practice and increase my fees, but make my practice a pleasure instead of a grind.

However, I find my present work, thanks to the aid of modern equipment along this line, to be much to my liking, but assure you it is always a pleasure to me to help men desirous of doing this work with such information and suggestions as I may be able to give them, and wish all to feel at liberty at all times to ask me for such aid as I may be able to render.

The Effects of Prolonged Treatment and Persistent Retention of Diseased Teeth.

By DR. J. D. THOMAS, Philadelphia, Pa.

Read before the Second District Dental Society.

It is probable that the extracting specialist comes in contact with the individual practice of a greater number of dentists than any other specialist in the profession, because of the more frequent necessity for his services. Extraction is the final word in the treatment of a tooth or root—the post-mortem, if you please, from which conclusions of great value may be drawn.



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It is a well-known fact that there are members of our profession who claim that extraction is an unnecessary operation—is malpractice in fact, and that any one who devotes his time to such an operation is little short of criminal. The opinion of these gentlemen can hardly be seriously considered, for their clientèle is selective, and they really know very little of the practice of dentistry as it is related to the great body of our population.

I recently extracted a tooth which had become loosened by evident pyorrhea for a gentleman ninety-two years of age. He had never lost a tooth, nor had he ever been in a dental office before, nor had he ever found it necessary to consult a physician about his health, and if our populace were all made up of such as he, the claim that extraction is unnecessary would have well sustained support, or at least the necessity for such an operation would be so infinitesimal as to be worthy of no consideration, but unfortunately such is not the case. It is estimated that there are about 40,000 dentists in this country who have a yearly clientèle of from 16,000,000 to 20,000,000 of people, and no one can truthfully say that in that great body of people there are no teeth to extract, or that all could, or should, be saved. As a matter of fact, there are more teeth extracted to-day and more artificial teeth manufactured by the dental manufacturers than ever before in the history of our profession.

There is a large number of our profession strong, vigorous, earnest men, who have been leaders in everything that pertains to the advancement of our calling and of benefit to the community, to whom credit must be given for the great strides in the advancement of our profession through the study and practice of the scientific principles of prophylaxis, orthodontia, crown and bridgework and prosthetic dentistry and other departments of practice, and their work along these special lines has commanded the respect and admiration of all. The success of the best in the profession is emulated by the average practitioner, and the standard of the profession is greatly advanced thereby, but it is the standard of efficiency which is exhibited by the average practitioner which is the gauge of our professional attainment by the public at large. They ask no more, and the law will demand no more. There is, however, one part of our professional work which appears to fall short of the success which our efforts should command, and that is the care and method of handling abscessed teeth and roots, either from pyorrheal or pericemental infection.

It is not my intention to make this paper a treatise upon abscess, but rather to report my experience upon some conditions as they exist at the time of, and after, extraction.

As one who, for a number of years, has enjoyed the confidence of a large number of his professional brethren in his home city, your essayist

has no hesitation in saying that to-day at least seventy-five per cent. of all the cases recommended for extraction by members of the profession are teeth or roots—either having acute or chronic abscesses—many of them having been retained until their removal has become absolutely imperative, and that in a large proportion of them extraction has not terminated the difficulty. Sometimes very serious conditions follow in their trail.

**Acute
Alveolar
Abscess.**

In the treatment of cases of acute abscess, accompanied by severe pain and swelling of the tissues of the mouth and face, forming pus, which may find outlet in any part of the mouth or throat, depending upon the location of the offending tooth, the regular surgeon would naturally recommend the extraction of the tooth as a primary step to removing the cause of the trouble, but under the system of the practice of dentistry of to-day, the first effort of the dentist would be to relieve the abscess and still retain the tooth, and not recommend extraction until everything else had failed. After a free discharge of pus, the patient becomes relieved of pain; conditions assume a quiescent state, and the tooth is treated with apparent prospect of success of its retention; but it is a question whether a tooth passing through a process of inflammation such as this will ever regain a normal state of health. The abscess starting at the apex of the root must exert considerable pressure upon the peridental membrane before the pus exudate, following the line of least resistance, can find an outlet; hence the result is separation of the membrane from the root, and during the suppurative process the membrane may become absolutely disintegrated by the inflammatory action, and there is not known at the present day any process of treatment which will restore this delicate membrane to its original condition about the root, upon which, after devitalization of the pulp, it is conceded that the tooth must depend for its circulation and sustenance, and for its proper restoration and retention. Consequently, under the conditions noted, the root is a separate thing, apart from the living structure, and its retention is a menace to the health of its environment. Sometimes this process of suppurative inflammation does not go to the point of absolute destruction of the membrane, but after separation from the root the membrane will become thickened and form a sac productive of pus, or a seeping discharge of infected serumal matter, which is equally destructive to the surrounding structure. This discharge may exude at the gingival border or become absorbed in the system by other means, but in any case it becomes a chronic abscess, and is detrimental to the systemic condition of the patient in addition to its local manifestation. In the few cases which have unfortunately passed to the stage of producing an opening upon the outside

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of the face, which, I am happy to say, is of rare occurrence in these days, I have never seen a case in which the fistula could be closed and the opening healed without the loss of the tooth. Cases which have broken inside the mouth may become apparently well, because of the tissue's greater vascularity, but the result is shifting from the acute to the chronic.

Pathologic Conditions after Extraction.

Succeeding extraction, we find inflammation of the alveolar process and bone infection, which will involve a considerable area, limited only by the resistant quality of the structure and systemic condition of the patient, followed by necrosis, perhaps formation of a sequestrum and exfoliation, and impaired usefulness or loss of one or two contiguous teeth. This inflammation of the bony structure will sometimes assume a sluggish nature, which will not progress to the point of forming a sequestrum; neither will it speedily recede in the curative process, but will continue to exude a thin, limpid secretion with attendant disintegration for weeks and sometimes months, requiring treatment and frequently curettement. Three cases of recent occurrence may be of interest.

Cases from Practice. Case I.

The first a lower right second molar. The inflammation involved the sublingual glands, and the abscess broke in the mouth under the tongue. The tooth was retained, treated and supposed to be cured. Shortly afterward an abscess developed on the neck just under the mandible. This was lanced and treated by a regular surgeon, and the tooth by this time needed refilling, and was crowned. Soon another swelling appeared lower down on the neck, which resulted in an abscess. This time the tooth was ordered extracted and found to have attached to it an enlarged sac the size of a hazelnut. The tooth was supposed to be in perfect condition. There was only slight tenderness or lameness, and it seemed quite firm in biting. This tooth had been under care and treatment for three years, first for being filled, which did not arrest the decay; then devitalized and treated, and later a large amalgam filling inserted, and finally the gold crown only six weeks before its extraction. After extraction, it was found that both inner and outer plates, and the septum of process between it and the third molar and the first molar had entirely disappeared, together with the roof of the inferior dental canal, exposing fully the dental nerve. In the healing, there being no bony socket, the gum closed at the bottom of the wound, leaving the anterior root of the third molar and the posterior root of the first molar exposed to the apices of each, with the ultimate loss of both of them in prospect in the near future.

Case II.

The second case was one of an upper right cuspid in which the pulp had died under a filling; cheek badly swollen and eye closed. The abscess broke over the region of the posterior root of the first molar. After the swelling had disappeared, the tooth was opened up and treated, and finally filled again. In the meantime a discharge of pus continued from the fistulous opening over the posterior root of the first molar—slight at first, but gradually increasing for nearly a year, and the first molar was diagnosed to be the offending cause. Drilling into the molar revealed the fact that the pulp was alive. This was destroyed, however, and the roots were dressed and filled in the usual way; but still the discharge continued. A regular surgeon was consulted and extraction of the first molar was ordered. After learning the history of the case, a probe was passed into the fistulous opening and extended well forward, as far as the first bicuspid, and it was decided that the cuspid tooth was the well-spring of the pus supply. After extraction, the flow of pus ceased and the case soon recovered.

Case III.

The third case presented a somewhat similar line of conduct. It was the left upper lateral which was free from caries, but from some unknown cause the pulp had died. The tooth was drilled into, the putrescent pulp removed, and the canal treated and filled. After a time, soreness appeared, followed by swelling of the lip and nose. This culminated in an abscess which broke through the floor of the nose just back of the entrance to the nostril. After the swelling had subsided and conditions had become supposedly normal, the tooth was reopened and treated, and finally filled permanently, but there remained a discharge in the nose, slight at first, but which increased as time went on. The tooth presented a good appearance, in no way sore or tender, and was pronounced sound. The patient was advised to consult a regular surgeon, and had actually engaged quarters at a hospital for such operation through the nose as might be deemed necessary.

Further consultation and examination revealed the fact that a probe passed through the opening in the nose struck the bare apex of the lateral tooth, the vibration of which was readily felt by placing the finger upon the crown of the tooth in the mouth. The tooth was extracted and no further trouble ensued. The roots of both of these teeth were entirely denuded of any membranous connection half way up their lengths.

These cases are, of course, extreme, but there are numbers of other cases of equal seriousness occurring constantly. The dentists were to blame. There was in the cases named faulty diagnosis, and they were carrying out the policy of universal dental salvation, following the system

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of prolonged treatment and persistent retention to accomplish what, from a surgical view, was impossible.

Chronic Abscesses.

In the chronic cases the results are of less immediate seriousness, but more insidious. There are perhaps hundreds of cases where abscessed tissue is present upon roots of teeth, or where the pericemental membrane has been destroyed, which may have caused no pain, and such teeth have remained perfectly innocuous, so far as visible effects have been shown. The pus secretions have disappeared by absorption or escape at the gingival border unobserved either by dentist or patient. The cases here referred to are the teeth or roots which remain for an indefinite period without causing severe pain or anything more noticeable than lameness, enhanced to a greater or less degree by systemic or climatic changes. The constant exudation of pus at the gingival border of the gum or elsewhere, whether from pyorrheal infection or the separation and denuding of the peridental membrane, produces gradual disintegration of the alveolar process, so that when extraction is finally resorted to, we find that not only a considerable portion of the buccal or lingual plates has disappeared, but very frequently the septum of process between the affected tooth and its neighbor has become entirely destroyed or thrown out, which proclaims the end of their usefulness and the necessity for their extraction in the near future. Here again we meet that debilitated condition in the bony structure which combats the natural process of healing. In many cases extraction will effect a cure, but not in all. The healthy portion is perhaps strong enough to resist further encroachment upon its area, but the curative process has not sufficient strength to form a line of demarcation, so we have a sluggish condition exhibited by the presence of bare bone, called by Dr. Jack "dry socket," and a suppurating deposit of granulation tissue which, uninterrupted, will continue for a long time.

To produce a rapid and satisfactory recovery, the necessity of curetting is sometimes indicated, but escharotic and stimulating applications are desirable at all times.

Antral Disease of Dental Origin.

These observations apply more particularly to all teeth, with the exception of the first and second molars and the second bicuspid. In these cases we meet a very different and more serious proposition. The close proximity of the apices of the roots of these teeth to the antrum complicates conditions very materially, resulting in antral disease of dental origin. This has become so common that it has ceased to cause remark among rhinologists.

At a recent meeting of one of our dental societies in Philadelphia, Dr.

Ross K. Skillern, a prominent nose and throat specialist of our city, read a paper upon antral disease of dental origin, and exhibited over a score of sections of the human skull, showing the close relation of the first and second molars and the second bicuspid, to the antrum, a number of them showing actual projection of the roots of these teeth through the floor of that cavity. The remainder were only protected by the thinnest kind of a bony film, clearly demonstrating the liability to disease following the prolonged retention of one or more of these teeth in an imperfect state. Of course, as a physician and surgeon, he recommended the extraction of the offending tooth as the first step to proper treatment and drainage.

Here was given an illustration of the tenacity of the hold which the system of persistent treatment of teeth, which are a menace to their surroundings, has upon the dental mind. During the discussion of the paper, one of the members deplored the recommendation of extraction under such circumstances. He is a prominent dentist of twenty-five years' standing, and yet he supported the theory that the tooth should be retained and the antrum drained through the pulp canals of the tooth, even if it were necessary to enlarge the openings at the apex considerably.

Any one familiar with the quantity of secretion accumulated in a diseased antrum in twenty-four hours, and its putrid creamy consistency, would readily recognize the futility of drainage through any such aperture.

What interested me most in Dr. Skillern's paper was that after giving the percentages of other specialists in rhinology, his own computation was that in his experience at least thirty per cent. of all the cases of diseased antrum had been from dental origin, which, to my mind, was a pretty heavy toll for the dental profession to contribute.

**The Doctrines
of
J. Foster Flagg.**

Dr. J. Foster Flagg was the father of the system of retaining and treating of teeth and roots which had been formerly condemned. Prior to the advent of the theories of his new departure, it was the common saying that a tooth which was not worth filling with gold was not worth saving at all; but he reversed all this and taught the theory that all teeth could, and should, be saved, or at least an effort should be made to do so. He was very enthusiastic and emphatic in promulgating his ideas, and proved conclusively that many teeth and roots, which had been formerly condemned to the forceps, were amenable to treatment, and could be made useful for a long time, a fact that has been verified so thoroughly by experience that his teachings have become, and is, the accepted principle of practice throughout the land. This has resulted in the prolonged treatment and persistent retention of many teeth and roots that should have been extracted before the resultant injuries

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are accomplished, which was never his intention. In this regard, I think, Dr. Flagg's teachings have been greatly misunderstood.

He had repeatedly said that a tooth having once passed through a period of inflammation was most liable to a recurrence of the disease, and he was very quick to recommend extraction in any case where the tooth was not reasonably amenable to treatment, and showed evidence of becoming a menace to the health of the surrounding structure.

The older members of the profession are more or less familiar with his public utterances, in which he claimed that in several hundred mouths in which he had treated teeth or roots he had never lost a single one; but that has been taken too literally. He did not mean that he had succeeded in saving all teeth, but such teeth—the selected ones—as in his judgment should, and could, be saved. It cannot be considered any breach of confidence at this late day for your essayist to say that Dr. Flagg recommended to him more extractions than perhaps any ten dentists in the city of Philadelphia, the record showing 91 extractions in a single year, but these were teeth and roots which, in his judgment, were not promising of successful treatment, and in no case would he allow a tooth to remain in the mouth which caused constant irritation, and would not respond to proper treatment and become healthy and non-irritant in a reasonable time.

Root Canals.

Acting upon Dr. Flagg's teachings the theory of practice has been impressed upon the dental mind that all teeth are capable of redemption. The dogma of treatment is the opening of the root canal to the apex, and that with proper medicaments restoration may be assured. The latest dissertation upon the subject that I have seen is Dr. A. B. Crane's paper, read to the District of Columbia society, June, 1911, in which he acknowledges his obligations to Buchard, Park, Buckley, Marshall and Black, but the whole line of treatment seems based upon the assumption that the roots of all teeth are straight, and the pulp canals easy of access all the way to the apex. If such were a fact the theory might hold good in many cases; but such is not the fact. I have no hesitation in making the assertion that not ten per cent. of the roots of teeth, especially the multi-rooted ones, are straight, nor do they all have open canals all the way or anywhere near the apex. I have recently taken the pains of splitting and examining the roots of 100 teeth that had been under treatment, but in only nine of them had there been made a clear opening to the apex, and these were lost because of the separation of the membrane from the root, and absence of a goodly portion of it, or had amassed a hypertrophied condition of the membrane about the root. As soon as separation takes place destruction of the surrounding tissue has begun, and continues as long as the root is allowed to remain.

In the other 91, some of the roots were curved and divergent. The canals of some were entirely closed by deposit of osteo-dentine, and no one could have found a line for the drill to follow. Some were exostosed and the apex absolutely closed. The terminal of others were so infinitesimal that the infected debris could not possibly have been forced from its lodgment. In an effort of drilling to make an opening to the apex, not a few had been drilled through the outer wall, and treatment had been directed some distance from the seat of trouble; others had been opened as far as it seemed reasonable to go, but not one of them came anywhere near the apex, and it would have been an utter impossibility for any one to do so.

If the systemic condition is good the removal of the tooth effects a cure, subjecting the victim only to the loss which has obtained during the retention, but if conditions are favorable to progressive necrosis or bone infection, there is no knowing to what extent the inflamed and necrotic condition may go. In one case in my experience the disease starting in the second molar extended from the lower third molar to the right lateral, the pulps of five of them having died from strangulated circulation, and the whole outer plate of the alveolar process was destroyed.

**Responsibility
of the Dentist.**

The medical profession has abandoned the care of the mouth and teeth to the dental profession, and the physician courteously consults with the dentist when necessary in all cases coming under the purview of the dentist.

We claim that the mouth is the gateway to the alimentary tract upon which so much depends for the good or ill health of the physical system, and we have assumed the responsibility before the world of projecting the system by oral hygiene to the extent which an unhealthy mouth would influence. Yet this system of practice and of persistent retention and prolonged treatment of diseased teeth which I have endeavored to describe, is the source of more conflict in our consultations with medical men than any other which may be brought forward, with the result that the dentist must ultimately bow in humble submission to the dictates of the medical conferee.

It is a fundamental principle of surgery that when any part of the human economy through disease becomes inimical to its associated parts extirpation by surgical interference is indicated, while the principle of dental practice to-day is to persistently retain a diseased tooth long after its retention has become, from a surgical standpoint, a positive detriment to the healthy condition of its locality. This does not include the innumerable cases which have been diagnosed as the cause of neuralgia and infections of the eye, ear, nose and throat, and many other disturbances



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by reflex, or systemically by infection. The judgment of the physician may not be infallible and his diagnosis as to the cause may be quite apparent or equally remote, but in most cases his directions are accepted and acted upon, and in such instances as are here described, his criticisms of so-called modern dental practice is justified.

In all affections of the teeth and the mouth, in so far as the disease is dependent upon the teeth, the dentist's judgment and advice should be paramount to all others, and this will be so when we recognize that a diseased tooth, which cannot be put in a condition of perfect health, is just as injurious, and perhaps more so to the physical system, as a diseased part of the body in any other location.

The dental profession should be just as careful to guard the system from pus formation and septic secretions in the mouth as the medical profession is from any other source in the body.

Now, gentlemen, I have confined the subject of this paper to the local manifestations as presented at the time of extraction, but to show that the matter is probably unlimited in other directions, I will quote from a letter received from Dr. J. D. Patterson, of Kansas City, in which, after making some remarks upon a former paper in which I had touched upon the error of permitting teeth to remain in the mouth when they cannot be made non-irritative, he quotes from a work of Dr. H. S. Upson, of Cleveland, Ohio, in which Dr. Upson gives it as his opinion that encysted third molar roots, badly filled and irritative, and all dead teeth which cause chronic irritation, cause nerve strain which results in more mental derangement and insanity than all other etiologic factors, and with characteristic frankness Dr. Patterson says: "I think his opinion may be very near right."

Dr. Clarence J. Grieves, of Baltimore, who wrote a paper upon "Systemic Pus Poisoning Associated with Diseased Dental Apical Regions," before this society, November 14, 1910, writes me: "I am so glad to hear you speak as you do on the lines of pus assimilation via the blood streams from the retention of the same about the roots of apparently otherwise good teeth. Since writing the paper I have had many cases, some of my own, some referred by orthopedists, because the general symptoms of pus poisoning are nearly always joint or spine symptoms, and I really feel better when I hold a 'post dentum,' so to speak, and look the root apex over in the forceps. From extracting too freely in the old days, the dentist now swings too far the other way, and does not extract enough."

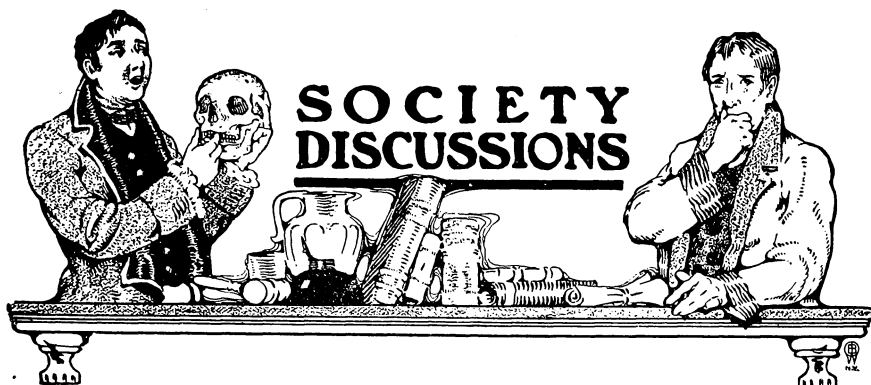
These quotations are made for the purpose of calling attention to the fact that the injuries done by the retention of teeth or roots in the mouth that are subject to chronic irritation are not confined to local lesions, but



by sympathy, reflex and pus absorption may cause disturbances remote from the seat of infection. Their retention is contrary to the principles of practice of surgery, contrary to the principles of prophylaxis and oral hygiene, and contrary to the best interests of the patient, and through the individual of the community at large. In all these matters in consultation with medical men, the dentist is placed in a secondary position, whereas the dentist, having assumed the responsibility of the care of the teeth and mouth, and having become the exponent of oral hygiene, he should be the expert in all consultations, and preëminent in his opinions and diagnosis.

And Dr. E. C. Kirk adds: "And he will not attain to that standard of clear judgment or high professional authority until he places the vital foundation and relationships of his work before mechanical craftsmanship in the order of importance of his professional ideals."





Second District Dental Society.

January Meeting.

A regular meeting of the Second District Dental Society of the State of New York was held on Monday evening, January 8, 1912, at the Kings County Medical Library Building, 1313 Bedford Avenue, Brooklyn, New York.

The President, Dr. E. H. Babcock, occupied the chair, and called the meeting to order.

The minutes of the previous meeting were read by the Secretary, and duly approved.

I have to make the sad announcement of the death of our dear old friend, Dr. Safford G. Perry, whom probably all at this meeting knew, who died on the morning of Friday, December 22d.

Dr. Jarvie.

Dr. Perry was not a member of this society, but he was one of the most prominent and ablest members of the dental profession, not only in this country but throughout the world. He was very much interested in this society. He had read papers before it, and frequently attended its meetings and took part in its discussions, and I think it would be very proper and appropriate if a committee were appointed to draft a resolution regarding his death, and present it at the next meeting of this society. I move that such a committee be appointed.

The motion was carried.

Personally I did not have a very intimate acquaintance with Dr. Perry, and yet any one who came in contact with him in the most casual way could not but appreciate the learning of the man, his true gentlemanliness, and his remarkable ability, and those who were present at the last dinner of the Brooklyn Dental Society will perhaps remember one remark he made in reference to the dental profession. I do not know that I can quote him

President Babcock.

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exactly, but the idea was that it is the grandest profession or business the Lord ever created.

Dr. Jarvie did not specify the number on this committee, and on my own volition I will appoint four—Dr. Ellison Hillyer as chairman, Dr. F. T. Van Woert, Dr. Rodrigues Ottolengui, and Dr. William Jarvie, and I request them to carry out the purpose of the committee as stated by Dr. Jarvie.

Dr. Edward C. Kirk, of Philadelphia, read the paper of the evening entitled, "The Cosmopolitan Aspect of Dentistry."

Discussion on Dr. Kirk's Paper.

Dr. Jarvie. This paper, it seems to me, is not only very timely, but it is presented in the able and very lucid, clear and convincing manner that we have always been led to expect from Dr. Kirk.

Dentistry is not only old, but it is universal. Undoubtedly it is as old as human ailments, and wherever there is a want there is sure to be at once the means provided to meet that want; and in the back ages as soon as there were ailments connected with the teeth, there were efforts made to treat them.

The oldest positive data that we have, or that I know anything about, regarding dental operations, is one that I met with some seven years ago while in Egypt, in a tomb at Luxor. This was the tomb of the Grand Vizier of the third ruler of Egypt, about 1,800 years before the Christian era.

On the walls of this tomb is a representation of a dental operation. There is a figure seated in a chair, a boy standing by the side of it with a napkin thrown over the arm, and holding a bowl, and a standing figure in front of the seated one with an instrument extending from the hand of this operator apparently into the mouth of the patient.

On my return to Luxor some four weeks afterwards, I tried to get a photograph of this picture. I went there prepared with photographic apparatus, and made several exposures, all of which were failures absolutely. I shall make an effort to get that picture photographed by some more modern and more effective means, perhaps by means of the flashlight, because I think it is a picture that ought to be recorded in the history of dentistry as the earliest evidence that we have of any dental operation.

Of course, we know that the Etruscans 2,000 years ago performed very neat dental operations. They performed operations that are nearly akin to our present bridgework, mounting human teeth on gold bands, wrapping the ends of these bands around the natural teeth, and so retaining the bridge in place. From that time on, dentistry has advanced, and

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we have heard of it sporadically in various places; but the great strides in dentistry have been made in the last hundred years, and as Dr. Kirk has said, it is a mistake to think that all there is of dentistry is to be found in the United States.

In the *science* of dentistry probably Europe is just as far advanced as this country, and we have learned much from both England and the Continent.

In the *art* of dentistry, I think that this country leads the world, judging from what I have seen in the mouths of different people, and from what I have heard. Schools have grown up in different parts of the world, particularly in Germany, France, Austria, Italy and England, also in Russia, and they have their standards of excellence, and their curricula of education. We have our curriculum here, and our standards here, and they have different degrees. You have been told to-night that there are about a dozen different degrees relating to dentistry, and it does seem as though it would be a very wise thing if measures could be taken to bring together the different organizations, the men representing the different countries, to endeavor to formulate some universal curriculum, or some curriculum that should be adopted by the various countries that would be acceptable to all the other countries, so that a person who had studied and graduated in dentistry in Germany might practice in the United States without further examination, and that those who had studied and graduated in dentistry, and had a degree in the United States might go to any other country and practice without further examination.

Dental Degrees.

A word in relation to dental degrees. Some twelve years ago I made a strenuous effort, devoted two or three years of my time to see if we could not have but one degree in this country. We had at that time four degrees, all representing practically the same thing.

We had the D.D.S., D.M.D., M.D.S., and B.D.S. I suppose few of you are aware that we ever had the degree of B.D.S. It was very short-lived, indeed, and there were only a very few such degrees conferred. They were conferred by the University of the State of New York, and through the efforts of Dr. Carr and myself these were withdrawn, and further conferring of such degrees was stopped.

At that time I headed an effort to do away with the M.D.S., simply as a step towards unifying the dental degrees in this country; but we met with strenuous opposition to that movement; opposition sometimes from directions we did not expect. It did not meet with success. Of course that M.D.S. will be retired. Those that were anxious to have it retired at that time, were instrumental in having no more of such degrees con-

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ferred, and the degree will cease to exist in the course of time, through the death of those who hold it to-day.

Why should we have a number of degrees representing the same calling in this country? Would it not be better if we had but one degree?

Some ten years ago a very strenuous effort was made by the University of the State of New York to see if we could not obtain common educational standards required for the preliminary examination to enter dental colleges, between Great Britain and New York State. Unfortunately we have a large number of States, all having different regulations regarding the standards of their examinations and their requirements for practice; but through the Secretary of the University of New York, James Russell Parsons, Jr., a very earnest and valuable man, who made that effort, seconded by Dr. Carr and myself, quite an extended correspondence took place between the authorities in England and ourselves, but with no great result.

Notwithstanding these failures, I believe that this can be accomplished. I do not think it can be accomplished in a year, nor in five years perhaps, but I do believe that if a crusade of education were begun and carried forward, we might bring about such a condition of affairs as has been set forth in this paper, in the course of ten years, and what better means of doing this than through these congresses, and by means of these congresses coming in closer touch one with the other?

Let a dozen men of ability and high attainments stand off at arm's length and argue with each other and find all sorts of differences, and they would never get together. Let them get in close touch with one another. Let them have an interchange of ideas and views, and it is astonishing how the respect of one for the other will increase, and they will get together and combine on almost anything for the good of all. So I think with the dental profession; if we could, through dental congresses, get better acquainted with dental affairs as they are in the various countries, I believe such a state could be brought about as has been set forth to-night. Why not have a congress in this country?

I think this country might invite the dentists of the whole world once more, as they did in St. Louis the last time, and Chicago the first time. I think these two congresses were of great benefit to the cause of dentistry.

Dr. Kirk, in opening his remarks, spoke of the
Dr. W. W. Walker. Congress in Chicago in 1893. I do not wish in any way to flatter the Executive Committee that arranged that congress, but as chairman of that committee, and a person who worked very hard for the success of it, I can say that the Executive Committee and the officers of the Congress felt very proud indeed of what was accomplished. I have visited other dental congresses since that time, one

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in St. Louis, and one in Paris; but as far as I am personally concerned, I fail to see wherein they eclipsed the congress held in Chicago in 1893.

Getting back to the dental society standpoint, I think from that time on, the Odontographic, or as it is now called, the Chicago Dental Society, was the largest and most influential in the country, in fact, in the world, and that is saying a great deal. I think the Chicago society is considered to be one of the finest dental organizations in the world.

A year ago we had in New York the First District Dental Society, the Odontological, the Institute of Dental Technique, and the Institute of Stomatology. Since that time we have merged all those societies into one. It was done by the hearty co-operation of the leaders of these different societies, or those mostly concerned. By their influence the committees were brought together, and they found that the ideals they all had, and had been working on for so many years, were the same. We all had about the same ideal for dental advancement—the uplifting of the dental profession in New York City and Brooklyn, and taking in all the young men possible; but all were working in different societies, and different ways, and after we came together and explained the usefulness of one large organization, all could see that it was better than to divide the work.

Such is the organization plan of the First District Dental Society of the City of New York, one of the most cosmopolitan dental societies in the world. Every ethical dentist is entitled to membership therein; every ethical dentist is entitled to membership in any of the study sections. Many of us think it is now the ideal society of the world. They are copying the First District plan in Germany, and in France, and in England, where we notice they are starting educational sections.

The members of our society are very happy over the outcome of the work that has been done in the last four years. This last year has been one of the best years in the history of the society; we have meetings in the Academy of Medicine four nights a week—Tuesday, Wednesday, Thursday and Friday. There are still two more sections to be organized—Dental Hygiene and Dental Research.

Five years ago if any one here to-night had been asked if the dental societies would all combine, he would have said: "Never; you never can mix oil and water. You never can get the lion to lie down with the lamb;" but now they eat salt out of each other's hands. That is what we want. We want to bury the hatchet. Just bury all professional jealousy, and you can form an organization that will be worth talking about, and that will be talked about.

I am very glad to hear Dr. Kirk state that a new era is dawning in our profession. It has seemed to me in recent years that really that era has arrived;

Dr. Gillett.

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but yet I have been filled with fear, sometimes, lest we as a profession might not be ready for the demands that will be made upon us when that new era really dawns. I wonder if you gentlemen realize, for I am sure that as a whole our profession has not realized, what it means to have in our care the organ which performs the initial step of digestion, upon which depends nutrition and mal-nutrition, and that great class of mal-nutrition diseases which the medical profession has been struggling with throughout all its existence, and has not yet begun to conquer? I wonder if we realize sufficiently our responsibility. It has seemed to me that there are many times when we have not realized it, and I still have some anxiety lest the time shall come when the medical profession, already awakening after what has seemed a long slumber, concerning the possibilities of conditions in the mouth, shall be thoroughly aroused to these possibilities, and find that our own equipment might not be up to the demands of the occasion.

The orthodontists have taught us much in the past few years concerning occlusion, but we have been concentrating on the occlusion of the child, looking to the future. That, of course, is the field where our best work can be done. Looking forward a decade or two, we may hope to be training our patients to a condition where the pitiful deformities that we now see every day in our practice shall be less common.

Following out that line we come to a field that we are not coping with, wherein we are simply falling down flat, as a profession. How many times have we all put in the mouth pieces of work that we felt were practically perfect mechanically, and yet gone back to them again later with wider seeing vision and realized that these pieces of mechanism were practically useless to the possessor, because they failed to work harmoniously with the rest of the mouth? In other words, the condition of mal-occlusion was such that our restorations amounted to little or nothing for the welfare of the patient.

When we are called upon for an opinion in a case of mal-occlusion, how many of us realize that we are asked for an opinion on something that is destined to govern not only the welfare of the masticating apparatus, the possibilities for nutrition all through life in that individual, but that we are dealing with something that controls the possibility of correct oxygenation in that person, a question that involves the welfare of the whole breathing apparatus? How many of us take thought that we are dealing with a problem that influences the whole nervous organization of the individual; that the area we are treating contains practically all the nerves of special sense and their ganglia? Gentlemen, we have scarcely touched the surface of the work of the dental profession. It is so big and so broad that we have not begun to realize its possibilities.

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In the mere matter of one of our oldest departments, the substitution of lost organs, do we as a profession come anywhere near realizing the ideals? Are we getting anywhere in touch with ideal conditions? It seems to me that we are not, that the great mass of our patients who come to us for that service are given something that merely enables them to limp along; that they are not given substitutes with which they can properly perform the initial step of digestion; and I want to go back again to that point. Many times bridges and restorations have been put into mouths where the conditions were such that it was utterly impossible for that individual to properly masticate food.

Charity Work by Dentists.

Something that I found in Dr. Kirk's paper reminds me of a thought that has been in my mind for a long time, which I have not expressed before in the society; scarcely to my friends. It has been repeatedly stated in our meetings that we are not doing our share of the world's charitable work, as a part of the medical profession, in our practice of the healing art. It has been stated that we never would do it; that the dental profession is incapable of doing its share of that work. There are a good many of you in this audience who know that that statement is not true, because many of you whom I see before me are actively engaged in that work to-day; but the things that we are doing now must grow and broaden a great deal before the public will acknowledge that we are doing our share. In order to give you a sidelight on my own feeling concerning that attitude, both in and out of our profession, I want to draw an imaginary picture for you.

Let us suppose that to-morrow, or next week, we could find in New York City a properly equipped dental hospital, as well equipped as the leading general hospitals of New York City are to-day, with operating rooms as well furnished for the purpose of dental operations as are the surgical operating rooms. Do you think, gentlemen, that there would be any more difficulty in getting the practitioners of this section, men who have been in practice ten, twenty, thirty or forty years, to go to these hospitals and give their time in the demonstration of important operations for the benefit of humanity, that students and younger practitioners might have the opportunity to see these operations? Would there be any less alacrity on the part of students and younger practitioners,—yes, and older practitioners, too, to improve that opportunity?

I agree with the essayist that it behooves us to get our house in order. We have taken the first step. For the first time in more than two decades this section of the dental world is ready to work in unison, to put our united shoulder to the wheel and all push in the same direction, and on the same weight. For at least two decades we have been pushing too often

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in opposite directions. Nothing but good can come of such an effort as Dr. Kirk has suggested to us, of reducing our available material to a harmonious basis and finding out where we stand; of settling first our individual differences, our differences between societies, differences between State bodies; of all working together for the development of a National organization that shall be a power in the world.

Dr. Kirk. The sympathetic discussion of this subject by those who have spoken is evidence of the accuracy of my diagnosis that the time is ripe for the consideration of this question of harmony of action, and of efficient work under a harmonious organization,—not only in our local and national affairs, but up to the international standard. The time is propitious, and I am glad that the time has arrived when a topic such as this can receive such sympathetic attention.

**International
Dental
Federation.**

In 1900, just after the congress in Paris, an organization, known as the International Dental Federation, was formed, and among other purposes its objective ideal was to do something along the line of harmonious international observation, particularly in the matter of international legislation and education—two fundamental questions. That federation has met year after year, composed of delegates from the national bodies of each of the nations represented, and step by step they have been able to hammer out some results that looked toward the harmonization of educational methods, in dentistry, throughout the world, and in the matter of legislation, and matters governing the practice of dentistry in the several countries; but in attending these meetings I have had the feeling that we were going ahead, reckoning almost without our hosts.

A movement of that sort can never rise higher than its source, and on the few occasions when I have had the honor to be one of the representatives of the dental profession of America in that body, I have wondered where might be my constituency.

Of course I knew there are some thirty thousand individuals over here practicing dentistry, but my constituency is the body of men that support the thing I am asking for, and if I am to be their mouthpiece, I want to know what my marching orders are.

I am starting this question, which I have brought before you to-night, to see if I can develop that constituency, and I have held up to you the successful example of Dr. Walker, in the enforcement of these principles for which I have contended, and for which he has been contending, right here in your midst. You have a splendid demonstration of their successful working out. I am asking you to believe, if you do not already know,

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that the conditions in an international way, are in their way just as important as the ones you are considering here in the municipal and State way, from the standpoint of your commonwealth. It is a trite saying to quote, "Debtor to our profession," but we *are* debtors to our profession. We cannot escape it if we live lives above the most sordid, that we must give something to our profession; and our profession is something bigger than that which is represented by the city of New York, or the State of New York, or the State of Pennsylvania, or the United States of America. It is an international profession.

The Scientific Awakening.

Europe has been learning very rapidly from us. We have made enough noise about things over here, so that Europe has sat up and taken notice; and Europe has merged, and is in the attitude of merging everything that is good, that she can get hold of under the name of American dentistry, and, as Dr. Jarvie has told us, the interest that has developed on the other side in the scientific aspect of dentistry is an old story to them, while we are but beginning to wake up to a point of taking intelligent interest.

I think those who have been in practice ten years will realize the tremendous difference in the attitude of men, generally speaking, toward scientific effort.

More than ten years ago I used to come over to New York and read papers on chemistry, and everybody went to sleep. I did it because it was a religion with me. I knew some time you would wake up, and I see you have. I would not want to discuss chemical problems too deeply when you can get such talent as Dr. Walker says he can to fill your big meeting rooms. To me that is a very striking advance. Your audiences do not go to sleep any more. Perhaps the chemical lectures are not so hypnotic. (Laughter.) At any rate, an audience will come out in New York to-day to hear a chemical lecture, and keep awake. I submit that is a different state of affairs from the conditions as I met them when I first came into dentistry.

There is an awakening of scientific interest on this side of the water, and there is a large development of skillful craftsmanship on the other side of the water that is tending now to unify professional ideals of practice on both sides. It is true, and we cannot ignore that fact, and if American dentistry is to maintain its position of leadership I do think it is important for us, as Dr. Gillett has said, to set our house in order.

A hearty vote of thanks was tendered to the essayist and to the gentlemen who discussed the paper.

Adjournment.



The Present Status of Reorganization of the National Dental Association.

In the June issue of *ITEMS OF INTEREST* appeared an editorial recounting the action of the Illinois State Dental Society in passing resolutions relative to the reorganization of the National Dental Association. The editorial commented upon these resolutions and declared that the language thereof was "unfortunate," because the resolutions did not declare that Illinois would affiliate with the National when properly reorganized. In the same editorial was printed in full a letter sent out by Dr. Arthur Black, as chairman of the committee appointed by Illinois, in which the declaration was made that Illinois was not antagonizing the reorganization; and the hope and belief was expressed that Dr. Black understood the intentions of Illinois better than was indicated by the resolutions passed, and that Illinois would lend its aid and co-operate with the Committee on Reorganization.

It is pleasant to report that all misunderstandings have been cleared up, and that Illinois will probably become a potent factor in building up a great national organization.

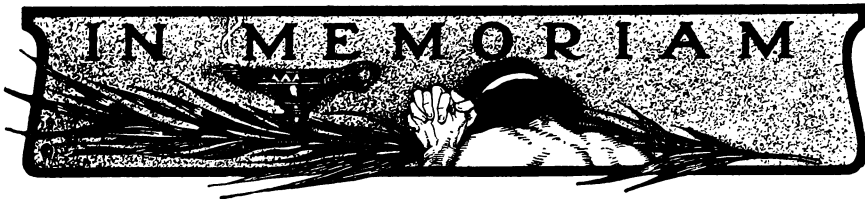
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The present complete understanding has been brought about by a conference between the Ad Interim committee of the Illinois State Dental Society, the Special Committee appointed by the Society, and a sub-committee of the National Association Committee on Reorganization.

It will be recalled that Illinois objected to that feature of the tentative Constitution which required that a State Society should maintain two-thirds of its membership, as members in the National Association. Since the Illinois meeting, the Committee on Reorganization has thoroughly revised the proposed Constitution and By-Laws, in order that they may be ready for presentation at the Washington meeting. The demand that States should guarantee two-thirds of their members has been abandoned, and after much study of the problem a plan has been devised which the Committee believes will be acceptable to all States, large or small, and by the National also, as equitable to all interests. At the conference in Chicago this plan was fully explained and was declared to be entirely satisfactory to the Illinois men.

The framing of a Constitution and By-Laws, and the obtaining of members, are somewhat different problems. Illinois has had a great deal of experience in organization work, and practically every State Society which has followed the Illinois plan of organization has doubled or trebled its membership. With the representative men of these States working harmoniously in the formulation of plans by which their members may be induced to join the National, the prospects of successful reorganization are increased very greatly.

Including Illinois, twenty-one State Societies have voted to become components of the National Association. The Committee on Reorganization will present a draft of a Constitution and By-Laws which will include all the important amendments which the American Medical Association has discovered to be necessary, through experience; and as there is every reason to believe that the State Societies yet to meet will also vote to join the National, undoubtedly the Washington meeting will see the fulfillment of a cherished wish of the dental profession.



Resolutions Adopted by the New York Odontological Society.

Dr. Safford Goodwin Perry.

Born at Wilton, N. Y., in 1844—Died in New York City, Dec. 22, 1911.

As a charter member of the N. Y. Odontological Society, and as its president for three years, the name of Dr. Perry is closely woven into the history of this society.

Always a believer in the usefulness of the dental society as an institution, he had given unselfishly of his time and energy to promote the interests of this organization from its inception to the time that its activities were discontinued in 1911.

The prominent position occupied by the Odontological Society and the international reputation it enjoyed as an organization, that stood for all that was best in the science of art and dentistry, was due largely to the loyal and untiring efforts of the member whom we now mourn.

Several of his splendid essays were prepared for this society, presented at its meetings, and now form a part of its archives. When the subject of discontinuing active work in the Odontological Society was under discussion, Dr. Perry expressed much regret that a society which had been so useful, and through which so much good had been done for the profession, should be disbanded.

He urged that the members be not hasty in reaching a decision, and expressed the hope that the organization would maintain its integrity even though its active work were over.

Dr. Perry's gentle and kindly manner, and his keen sense of justice, made him a respected executive as well as a popular member in the ranks. His sympathy with the young men in dentistry, and his uniform courtesy and generosity in all his relations with them, had endeared him to hundreds who will always remember him with gratitude.

As a lecturer on the faculty of the Dental Department at the University of Pennsylvania, he was always warmly welcomed by the students. His keen sense of humor and a ready wit made his lectures interesting and entertaining, as well as instructive, and his youthful spirit drew his hearers to him and made them feel that he was one of them.

ITEMS OF INTEREST

Dr. Perry's essays on dental topics stand out preëminently as examples of scientific and literary attainment, and his other writings, including prose and verse, give evidence of unusual gift and much cultivation.

In recording the death of our beloved fellow member, it is resolved by this society that dentistry as a profession loses one of its most useful and respected men.

That the dental profession in New York loses its best beloved member, and that the Odontological Society now mourns one of its most loyal and devoted followers.

It is further resolved that this minute shall be spread upon the record book of the society, and that a copy shall be sent to the family of the late Dr. Perry.

WILLIAM JARVIE,
HENRY W. GILLET, T,
WILLIAM D. TRACY.

Dr. William E. Hoag.

Born at Centre Sandwich, N. H., in 1841—Died in New York City, April 14, 1912, in his 71st year.

Dr. Hoag came to New York in 1860 and took up the study of dentistry with his uncle, Dr. Charles Miller. He married Miss Kempton, and to this union one son was born—Joseph Kempton Hoag.

Dr. Hoag graduated in dentistry in 1872 from the N. Y. College of Dentistry. Later he became interested in medicine and took the course at the College of Physicians and Surgeons, where he received his medical degree in 1875.

Dr. Hoag's second wife was Miss Knowlton, and by this second marriage he had two daughters and a son, all of whom survive him.

He was a member of the N. Y. Odontological Society, the First District Dental Society, State of New York, and the N. Y. Institute of Stomatology. He enjoyed his affiliations with all these societies, and was regular in his attendance at the meetings.

A close friend of Dr. Hoag's, a fellow practitioner of dentistry, says of him as follows: "Dr. W. E. Hoag was a man of strict integrity: honest and truthful, unselfish, genial and a true friend. He was a gentleman in every way, honest in his dealings, and to be depended upon under all circumstances.

He was a successful practitioner, and a very pleasant relationship evidently existed between him and his patients. He lived the allotted age of man, and, had he conserved his health and strength, would have lived longer. In his life, as in his speech, he was pure and chaste."



WHEREAS, Through the death of Dr. William E. Hoag, this society loses one of its valued members, be it

Resolved, That a copy of this minute be spread upon the records of the Odontological Society, and a copy also be sent to the family of the deceased.

WILLIAM JARVIS,
HARRY W. GILLET, T,
WILLIAM D. TRACY.

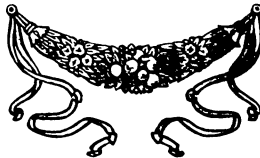
Dr. Auville Le Roy Whitney.

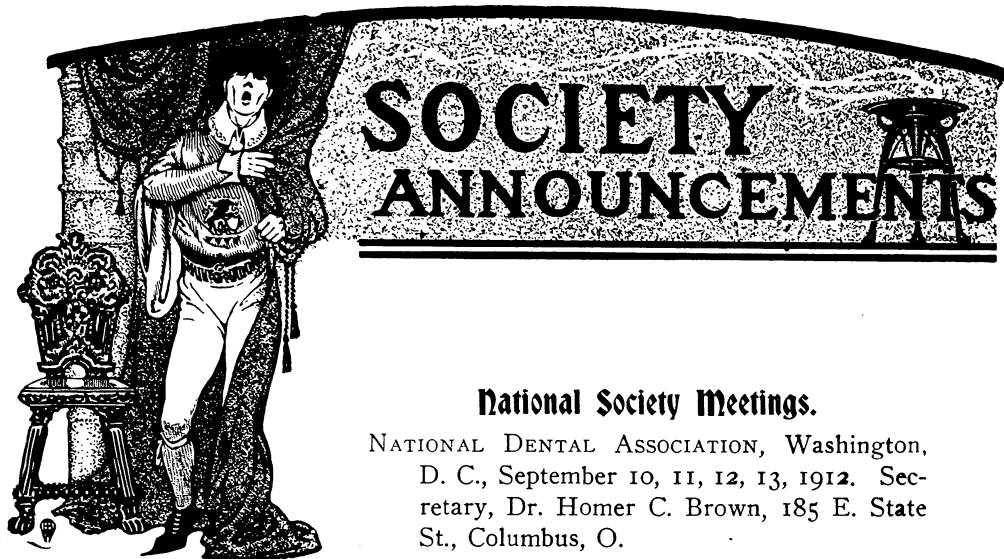
Dr. Auville Le Roy Whitney, one of the prominent dentists of Denver, died at his home, 325 E. 18th Avenue, Friday, March 15, 1912.

Dr. Whitney was born in Brownfield, Me., March 28, 1865. He attended Tuft's College Dental School in Boston, from which he graduated in 1890. He followed the practice of dentistry for a short time in Boston, then moved to Denver, where he has since practiced.

In 1896 he took an active part in the organization of the Colorado College of Dental Surgery, in which institution he has been an earnest worker. He held the Chair of Dental Pathology and was Secretary of the Board of Directors. In addition to his college work, he was a very successful practitioner, conducting an office at 616 Commonwealth Building.

Dr. Whitney was a member of the Colorado State Dental Association, the Denver Dental Association, Junior Order of American Mechanics No. 16, the Denver Athletic Club, the Democratic Club and several Glee Clubs. He was married to Octavia J. Dundas on November 15, 1904. He is survived by his mother, Sarah M. Whitney, wife and little step-daughter.





National Society Meetings.

NATIONAL DENTAL ASSOCIATION, Washington, D. C., September 10, 11, 12, 13, 1912. Secretary, Dr. Homer C. Brown, 185 E. State St., Columbus, O.

National Dental Association.

The 1912 session of the National Dental Association will be held in Washington, D. C., September 10th to 13th, and all indications are favorable for this being the most important and successful meeting that this association has ever held..

The Local Committee of Arrangements has selected the New Willard as "Headquarters Hotel," and necessary accommodations for the meetings of the general sessions and sections, as well as the "all-day clinic" on the last day, are to be held in the commodious ball room on the eleventh floor of this hotel. This provides the ideal arrangements for a successful meeting; that is, all under one roof.

The reorganization proposition has been receiving most liberal support from the State Societies, which have met since the Cleveland meeting, when a constitution, along the lines of the American Medical Association, was tentatively adopted. This question will come up at this meeting for final action, and every one interested in the perfecting of a representative National Dental Association should be present. You are respectfully requested to remember this meeting when making your vacation arrangements, as this presents an excellent opportunity to attend the meeting of the National Dental Association and visit our National Capitol.

The following are on the Literary Program for addresses, lectures and essays: Dr. Arthur R. Melendy (president's address), Drs. Newell S. Jenkins (Dresden, Germany), Harvey W. Wylie (M.D.), Leon S. Medalia (M.D.), F. E. Stewart (M.D.), C. V. Conzett, B. Holly Smith, M. L. Rhein, T. B. Hartzell, George E. Hunt, C. A. Hawley, George B. Harris, W. O. Hulick, M. C. Smith, C. M. McCauley, W. A. Lovett,



Joseph Head, H. H. Johnson, J. F. Biddle and J. J. Moffitt. Have not been furnished with all the subjects of the above at this date, July 10th, and for that reason all have been omitted; however, all of those selected are men of recognized ability, and they will cover the important subjects before our profession to-day.

The report from the chairman of the Clinic Committee is most encouraging for an interesting clinic. This will be classified so that a person interested in some particular subject may study this through its progressive steps.

Information regarding railroad rates may be secured from your local agent, as conditions vary in different sections of the country. Any agent will gladly furnish any information requested.

HOMER C. BROWN, Recording Secretary,
185 East State Street, Columbus, Ohio.

National Association of Dental Examiners.

The Thirtieth Annual Session of the National Association of Dental Examiners will be held at the New Willard Hotel, Washington, D. C., beginning Friday, Sept. 6th, 1912, at ten o'clock A. M., and continuing until adjournment.

Delegates expecting to attend are advised to make reservation early on account of the meeting of the N. A. D. F. and N. D. A.

T. A. BROADBENT, Secretary,
15 E. Washington St., Chicago.

HENRY L. TURNER, President,
St. Louis, Mo.

Southern Branch of the National Dental Association.

The fifteenth annual meeting of the Southern Branch of the National Dental Association will be held jointly with the National Dental Association at Washington, D. C., September 10th to 13th inclusive. Only a short business session will be held for the election of officers, and transaction of such other business as may be brought before the meeting.

THOS. T. MOORE, JR., Cor. Secretary.
Columbia, S. Car.



Delta Sigma Delta Fraternity.

The twenty-eighth annual meeting of the Supreme Chapter of Delta Sigma Delta Fraternity will be held at the New Willard Hotel, Washington, D. C., Monday, September 9, 1912, at 10 A. M.

Business of importance and initiation has been arranged for the day, to be followed by the annual banquet in the evening.

R. HAMILL D. SWING,
Supreme Scribe.

Vermont State Dental Society.

The thirty-sixth annual meeting of the Vermont State Dental Society was held in Burlington, Vt., at the Hotel Vermont, May 15th, 16th and 17th. There was a good attendance and the meeting was a very successful one. The meeting next year will be held at the same place. The officers elected for the ensuing year are as follows:

President, Dr. E. H. Brown, Enosburg Falls; 1st Vice-President, Dr. Dana E. Dearing, South Royalton; 2d Vice-President, Dr. Thomas Mound, Rutland; Secretary, Dr. P. M. Williams, Rutland; Treasurer, Dr. W. H. Munsell, Wells River.

Executive Committee: Dr. W. H. McGoff, Montpelier; Dr. H. M. Smith, Lyndonville; Dr. G. E. Partridge, Burlington.

Illinois State Dental Society.

The Illinois State Dental Society held its 48th annual meeting at Springfield, May 14-17, 1912. The following officers were elected for the ensuing year: President, J. F. F. Waltz, Decatur; Vice-President, J. K. Conroy, Belleville; Secretary, H. L. Whipple, Quincy; Treasurer, T. P. Donelan, Springfield; Librarian, I. B. Johnson, Onarga.

The 1913 meeting will be held at Peoria, May 13, 14, 15, 16, 1913.

H. L. WHIPPLE, Secretary.

Quincy, Ill.

Ohio State Dental Society.

The Ohio State Dental Society, which usually meets in Columbus, will hold its annual meeting December 3, 4 and 5, 1912, at Hotel Sinton, Cincinnati, Ohio. A big meeting is assured.

F. R. CHAPMAN, Secretary.

305 Schultz Bldg., Columbus, O.